An Addres

PROFESSION AND HE GENERAL MEDICAL CO CIL.

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AL MEDICAL COUNCIL.

FELLOW PRACTITIONERS,—The Editors of THE LANCET have kindly placed at my disposal a few valuable columns of their space that in a New Year's Address I may put myself into communication with the profession in England and Wales which I have the honour to represent in the General Medical Council. I have always been of opinion that the chief way in which his constituents can judge as to how a Direct Representative discharges his duty is by reference to the part he plays and the work he does on the Council, but the absence of frequent opportunities of addressing any large number of one's constituents directly at any length on matters affecting the profession makes the use of occasional opportunities of doing so as agreeable to me as it is respectful to you.

I have headed my address "The Profession and the *General Medical Council*" According to my view the profession is much greater than the General Medical Council and the Council is only great in proportion as it reflects and represents all that is best in the profession. True, it is supposed not to represent the profession *only*, but the State in its relations to medicine—relations which are growing in number and in gravity every day and which have no slight bearing on the subject of Direct Representation as I shall hope to show. I think the present moment is a peculiarly fit ne for reviewing our legal position and considering where we are and what is our duty as a profession. Two or three osecutions under the Medical Acts have lately taken ice in which to ordinary lay minds the accused persons d glaringly violated the penal clauses. I refer particularly the case of Matthews at Norwich, the Eastburn case in Scotland, and last of all the case of Steel in the county of Durham. The boldest champion of the sufficiency of the existing Acts may well begin to have misgivings and we are all practically agreed that the amendment of the Acts has become urgently necessary if the profession and the public are not to be injured grievously by the defiance of the most arrant quacks under cover of law aping all the functions of medical practitioners, including that of giving certificates of all sorts and quasi-certificates of death, which are accepted generally by the Registration department of the State. This monstrous state of matters is not the only reason why we should seek an amendment of the Medical Acts and review the relations of the State to the profession. There re others. The complete breakdown in the legal provisions or securing universal vaccination and of the public arrangements for teaching students how to vaccinate are among the ost grave facts of recent history. In spite of the compliments aid, and honestly paid, by leading statesmen to the medical rofession it has still to fight for the due recognition of its rights and of its authority as a factor in legislation. I tried o show at the recent meeting of the General Medical Council ow much depends in the present crisis of vaccination lawlessness on the private and quiet influence of the medical ofession, and I have no reason to complain greatly that the asideration of this view was rather deferred than rejected members of the Council and by Sir Richard Thorne himlf who naturally believes in the high official view of this great public question. But the full effect of this quiet influence of the profession through its general practitioners is hindered by the small number of such practitioners on the Council as Direct Representatives in proportion to the overwhelming numbers representing teaching and examining bodies. The effect of this "disproportion'd sin" is constantly felt by the Direct Representatives, the more so as there is no direct epresentation of members in the councils of the individual ualifying bodies and but a very indirect and ineffectual representation in the councils of the universities. No opportunity should be lost of introducing the principle of direct representation into the government of the individual bodies and of extending the direct representation in the General Medical Council. It is only by such extension of the principle that the agitation of those who advocate it can be allayed and that the full and beneficial influence of the profession as a whole can be brought to bear on medical education and on legislation for such amendment of the medical acts as is admitted on all hands to be necessary.

There may be differences of opinion as to the best means of securing the fuller representation of the profession in the General Medical Council. Some advocate a change in the law defining the individual bodies as consisting of Licentiates, Members, and Fellows, or, in the case of the universities, of the whole body of graduates. By this change it is supposed that the practitioners of the country would make themselves felt more effectually in the Government alike of the individual bodies and of the General Medical Council Others look rather to such changes in the charters or in the law as shall introduce direct representation into the medical corporations and extend it in the case of the General Medical Council. My own belief is that the reform will come sooner in the way of direct representation, which having been already conceded by Parliament in the case of the General Medical Council cannot reasonably be withheld in the case of the individual bodies. That the governing councils of these bodies should set themselves against such a reform has always surprised me. The opposition is a survival of the feelings which ruled in the Medical Corporations eighty years ago and which were expressed by Mr. Abernethy as an answer to the just demands of Mr. Wakley and his followers for a reform of the constitution of the Royal College of Surgeons of England. The following words occur in the course of a document presented by Mr. Abernethy and entitled, "Observations in Refutation of Charges publicly made by certain Members of the College against its Legally Constituted Authorities."[1]

"It is represented that the constitution of the College has been the cause of the alleged injuries and grievances.

"The evident object of this representation is the subversion of the present government of the College and the substitution of elections to offices of control and responsibility by members who for the most part exercise the professions of apothecaries and accoucheurs. There can be little doubt that in the event of such an innovation the Institution would soon cease to be a College of Surgeons or of Surgery, and a system of continual intrigue and cabal amongst the profession in general would be introduced."

The existence of such feelings in the heads towards the rank and file of the profession two or three generations back was bad enough; it is now quite indefensible when the apothecary is also a surgeon in the eye of the law, if not a physician also—a point upon which we may have soon an authoritative legal deliverance—when there are no fine lines of demarcation between the different grades of practice, when the difference in the severity of the examinations of the various examining boards is less, and when degree and diploma alike constitute a licence to practise the art of medicine in all its three equal branches. Surely the time is fully come for the governing bodies of our great corporations to do tardy justice to their own members by giving them a voice in the management of their own corporations. Such an act of justice would do more than anything else to harmonise the profession and to raise it in the estimation of the public. It cannot be expected that the public should treat the profession with due respect when universities give their graduates and medical corporations give their members so little function, denying them, as a rule, all "offices of control and responsibility."

The feelings of distrust and disrespect towards the rank and file which are expressed in Mr. Abernethy's Refutation surviving still in the corporations almost necessarily survive in the General Medical Council which is made up so predominantly of the representatives of corporations and universities. But I have been long enough a member of the General Medical Council to believe that they are undergoing insensibly a considerable modification and that with a little more mutual consideration between Official and Direct Representatives a very valuable amount of harmony and cooperation between different sections of the profession would be reached which would tell immensely in advancing medical education and the social and political position of the profession.

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[1] THE LANCET, May 30th, 1836, p. 1514.

It is only fair to say that even with its present constitution the General Medical Council has done something for the profession. It has, with a few regrettable exceptions, given a fair and respectful hearing to the Direct Representatives, it has put them into its various committees and its offices of trust, and it has well-nigh abolished the unqualified assistant. It has presented to the Government a unanimous report on the principles which should regulate legislation on midwives. If these should be adopted by Parliament "quacks" will be abolished, the practice of midwives will be regulated by a board and all doubtful "labours" will quickly be brought under the notice of a registered medical practitioner. The General Medical Council has started fairly on a course for securing a fit preliminary education for those entering the profession. No doubt the Council has been late and long in accomplishing some of this creditable work, but let us generously admit that it has done it and that the chief promoters of it have not all or always been Direct Representatives, though these have taken an important part, and on one memorable occasion had their valuable work somewhat rudely appropriated by others. The General Medical Council further has slowly constructed a set of Standing Orders regulating *inter alia* the procedure of the Council in its penal action against any accused *member of the profession and requiring that such accused* person shall be supplied with "the particulars" of the charge against him. It has lately, on the motion of Sir Batty Tuke, resolved that no case of complaint shall be considered by the Penal Cases Committee until a statutory declaration as to the facts of the case has been supplied by the complainant. Finally, the General Medical Council with all its faults has some interesting features compared with other medical authorities. Firstly, it is the only medical body which acts openly. Its discussions with few exceptions are open to the public and are reported by the medical press and by a considerable section of the lay press. Secondly, the General Medical Council is in its composition a broad and comprehensive body. It represents all the medical authorities, the Crown, and, though imperfectly, the registered practitioners of the Empire. I would gladly see it a smaller but I should be sorry to see it a less representative body than it is.

These are a few features of the Council which make it an interesting body. However critical we may be we can afford to recognise them and admit that they tend to benefit the profession as well as the public. We may go further and admit that the profession has been benefited. I shall immediately speak of matters needing reform, but I should think it impolitic and unjust to be pessimistic in tone in speaking of the condition of the profession now as compared with the period before the establishment of the General Medical Council and not to recognise improvements in the status of the profession. The numbers in the profession are excessive, but the openings for medical work in the empire have been greatly multiplied by its growth and by reason of the development of sanitary legislation. It is difficult to compare the position of the medical practitioner now with that position prior to the Medical Acts. We are all apt to be oblivious of the grievances of former days and to place our predecessors in idyllic conditions. But I should be sorry to exchange the conditions of the present day with those of the ante-Medical Acts period. There are many hardships now, but they will compare favourably with those of the former period, and I believe the position and the prospects of the medical man who does not adopt pessimistic theories to be better now than it was then. But with every disposition to allow that the General Medical Council is an interesting and useful body and that its action has been such as to improve the education of the profession and its status generally, I must point out in conclusion some much-needed reforms in its own constitution and functions and in the penal clauses of the Medical Act.

THE CONSTITUTION OF THE COUNCIL.

It is too large and it is not sufficiently in touch with those general practitioners for securing the competency of whom it exists. Some of its most eminent members have said almost boastfully that they have never attended a midwifery case. A body which has generally met the demand for an increase in Direct Representation with the blank proposal of the previous question must be defective in its sympathies with a profession from which it derives its own honour
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reference only to the maintenance of a minimum standard securing a bare competency to practise. The Council has no power to inspect examinations of a higher class as such or pretending to be of a higher grade. It seems obvious that some body of the profession should have the power and duty of inspecting and reporting on the nature of such ostensibly higher examinations, carrying generally at any rate higher titles than attach to the ordinary diplomas. Surely no body can so fitly be endowed with such powers as the General Medical Council in which by its very constitution all bodies are represented.

THE LAX STATE OF DEATH REGISTRATION.

One of the most urgently needed pieces of legislation is that which would make it essential for the registration of a death to have either the certificate of a registered medical practitioner or that of a coroner as to the cause of death. Pending such legislation there are large districts in which a statement of the cause of death by a herbalist or any other quack seems as valid for registration purposes as the certificate of a medical man. The Council has taken, partly at my instigation, much trouble to bring this amendment about. The President (Sir William Turner) has been most painstaking in his communications with Government. So far nothing effective has been done. But the Council is still vigilant and active in the matter.

THE PENAL CLAUSES OF THE MEDICAL ACTS.

I have already referred to the glaring inefficiency of the 40th clause of the Medical Acts as illustrated in the cases I have mentioned. The failure in some of the cases may have been due to the faulty way in which they have been prepared, but this will not suffice to explain all. The uncertainty of getting a verdict is so great as to invalidate the Medical Act of 1858 in its chief purpose—viz., that of "enabling persons requiring medical aid to distinguish qualified from unqualified practitioners." To facilitate such a distinction is surely the very least that law can do for a profession on which it lays such heavy burdens of education and duty. It should do much more. It should punish not only the assumption of all misleading titles by unqualified practitioners but all practice by them as being essentially against the public interest. Apart from legislation or any change in the constitution of the General Medical Council there are reforms of procedure, penal and general, which would expedite the Council's business. I supported most of the proposals to this effect by Mr. Horsley at the late meeting. I have long urged an enlargement of the Penal Cases Committee and more frequent meetings of it—so far unsuccessfully. Mr. Brown advocated the delegation of the penal business, in the first instance at least, to the Branch Councils. I supported this proposal. But so far we have not succeeded in any plan for making this committee so large and representative as it ought to be. We have, however, succeeded in making it liable to change by annual election.

On the whole I am not hopeless of considerable reforms, even with the present constitution of the Council. But if they are to be achieved two things are necessary. First, that some attempt be made to secure union in the Council and in the profession. If this cannot be procured we may give up all hope of any help from Parliament or Ministers. Unless we appeal to Parliament with a united front we had better abandon all hope of legislation. Next to union in the Council and in the profession our best hope of amendment in the Medical Acts is in making practical proposals. The extreme reformers and the extreme admirers of things as they are neutralise each other and stop all progress. Parliament is heavily handicapped with work and has a great dislike to undertake medical legislation

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A Clinical Lecture

ON

SOME PECULIARITIES IN THE BEHAVIOUR OF CERTAIN MALIGNANT AND INNOCENT GROWTHS.

Delivered at St. George's Hospital

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ETC.

GENTLEMEN,—There is probably no subject of greater interest to the practical surgeon than the peculiarity which is sometimes seen in the behaviour of certain tumours, especially those which are apparently malignant. The question is one about which little is definitely known; it is, however, of considerable importance in relation to prognoses and treatment and is therefore worthy of some attention. During the past few years the uncertainty which attaches to the course of some of these cases has been brought prominently before me by a succession of instances in my practice some of which I propose to describe in the present lecture with a view to arriving at some practical conclusions. With this object the cases may be usefully divided into three classes: (1) those illustrating the occurrence of tumours which, although apparently malignant, run an innocent course; (2) examples of the occurrence of tumours which, being apparently innocent, prove in the end to be malignant; and (3) cases illustrating the influence of the concentration of the mind of the patient upon the part, in the growth of innocent tumours or in the development of malignant disease.

TUMOURS APPARENTLY MALIGNANT WHICH RUN AN INNOCENT COURSE.

Cases in this category are of two kinds: (1) those in which the growth entirely disappears spontaneously; and (2) those in which it becomes quiescent, assuming a condition which may be conveniently termed "negative malignancy." Each of these classes again consists of two sets of cases—those in which the malignant character is verified by the evidence of the microscope and those in which clinical characteristics alone determine the diagnosis.

TUMOURS APPARENTLY MALIGNANT WHICH ENTIRELY DISAPPEAR SPONTANEOUSLY.

Class 1: The Nature of the Growth Verified by the Microscope.

CASE 1.—A woman, aged thirty-six years, was sent to me on account of an abdominal tumour. It was stated that she had been in good health until her last confinement nine months previously. Although she had had a "bad time" at the confinement nothing happened until a month or two afterwards, when, as she did not appear to regain her usual state of health and complained of abdominal discomfort, an examination was made, with the result that a hard mass was discovered on the right side immediately below the liver. This mass slowly increased and the patient, who was previously robust and rather stout, became weak and greatly emaciated. From time to time there had been a discharge of mucus and slime from the bowel and increasingly obstinate constipation supervened. When I first saw her she was thin and wasted to an extreme degree, the skin over the abdomen was wanting in elasticity; the face was sallow and the general aspect of the patient was that of malignant cachexia. A little to the right of the middle line under the liver was a mass somewhat fixed, irregular in outline, and moving a little with the liver in respiration; over a spot towards its inner side it was very sensitive to the touch. Although in some respects the case was most unpromising it was thought wise in view of the possible onset of intestinal obstruction to make an abdominal exploration. Upon opening the abdomen a large nodulated mass of stony hardness was found in the situation indicated. It appeared to invade the liver, on the upper surface of which, quite distinct from the main tumour, was a roundish nodule of the size of half a walnut of a characteristic malignant appearance; the omentum was involved in the mass and tucked up so that it formed merely a hard compressed irregular lump. To the naked eye the tumour was beyond doubt malignant, but as the growth had been slightly torn in the manipulation a portion was excised for microscopical examination and was subsequently reported to be a typical specimen of mixed round- and spindle-celled sarcoma. The recovery from the immediate effects of the operation was rapid and the gravest possible view having been taken of her case the patient was sent home in the full belief on my part that the remainder of her life must be measured by months only. She did not, however, die, but gradually improved in condition and in eighteen months was a healthy, well-nourished woman in whom no trace of a tumour could be found.

CASE 2.—A woman, aged fifty-two years, was admitted into St. George's Hospital early in 1896 on account of a well-marked melanotic sarcoma of the sole of the foot which was freely excised, the wound healing in the ordinary way. In August of the same year she was admitted under my care with extensive recurrence, for which Symes's amputation was performed on Aug. 18th. On Sept. 19th some small blackish tumours were noticed on the skin along the inner side of the thigh; these increased in size and multiplied until they reached the number of 62. At the same time some hard glands began to appear in Scarpa's triangle; one of the skin nodules was removed and was found to be a typical round-celled sarcoma *without pigment*. The original growth was a well-marked melanotic sarcoma and the recurrent disease of the same kind but less pigmented. A formal consultation was held with regard to the future treatment of the case and it was naturally decided that in a patient who showed such an extreme tendency to dissemination of the disease no further operative measures could achieve any useful end. The case was therefore regarded as hopeless, the patient being recommended to go to the parish infirmary to pass the brief remainder of her life in as much comfort as was practicable. This, however, she declined to do and went to her home. Six months later she came to the hospital in excellent health; the stump was an extremely good one and all the nodules in the thigh had disappeared with the exception of three or four which were hardly perceptible and no enlarged glands in Scarpa's triangle could be felt. She again presented herself subsequently, every trace of the nodules having gone, and when last seen she was in perfect health in all respects.

CASE 3.—I have seen another case exactly similar to the above excepting that the original growth was on the outer side of the dorsum of the foot, the nodules being disposed along the outer side of the leg and the enlarged glands situated in the popliteal space. Spontaneous disappearance of the nodules and gland followed removal; the nodules on the skin were unpigmented.

CASE 4.—This in some respects is one of the most remarkable which have come under my observation. A man, aged forty eight years, consulted me concerning what was thought to be a hydrocele. The tumour was not larger than an orange and was less oval than usual in hydrocele. It was stated to have existed for nine years, having practically been unchanged in size for the last seven of these. About six weeks before I saw him he had received a slight blow on the tumour which made it a little sensitive. It was tapped after it had existed for five years and a small quantity of clear fluid was said to have come away without causing any material diminution in the size of the swelling. The tumour was opaque and did not to my mind suggest hydrocele, but the patient would have no interference and, indeed, merely consulted me for advice about the most suitable kind of suspender for the trouble. A year later he came again as, although no increase in size had taken place, he was unable to obtain a satisfactory support. He was therefore anxious for tapping in order to make the thing more manageable. Although I did not expect to effect much by the tapping I introduced a small trocar deeply into the mass which was quite insensitive; a little blood only came away. The tumour clearly was quite solid and having considered the circumstances generally I advised its removal. This course the patient declined unless the malignant nature of the growth could be demonstrated with certainty. As the tumour was so insensitive I introduced a large trocar and cannula and by moving the end of the cannula freely in the substance of the mass succeeded in bringing away some tissue which upon microscopical examination presented appearances characteristic of sarcoma. I feared fungation from the trocar wound, but this healed rapidly and castration having been postponed for a period the tumour slowly decreased in size and in three months had lost half its bulk. I heard subsequently that the testicle had become "very much like the other one, but was quite numb."

CASE 5.—The only case resembling this of which I have heard was one in which a tumour in the scrotum, about the nature of which there was some doubt, was punctured by a fine trocar and cannula and a few drops of blood were withdrawn; a diagnosis of sarcoma was made and removal was advocated, but the tumour slowly disappeared spontaneously after the puncture. No microscopical examination was made but the case was probably of the same nature as the one which I have described.[1]

Class II: The Nature of the Growth estimated by its Clinical Characteristics only.

CASE 6.—A middle-aged man was admitted into St. George's Hospital under the care of Dr. Ewart in August, 1893, on account of pyloric obstruction due to a large growth. He was in the last stage of emaciation and had the cachectic appearance often associated with malignant disease. After a consultation with my colleagues I performed abdominal section and exposed a mass nearly as large as a man's fist involving the pylorus. In the omentum were several hard nodules and under the liver were nodules of a similar kind. The main tumour was of stony hardness, the nodules which were freely manipulated not only by myself but by my colleague, Mr. Dent, who was present at the operation, being equally hard. The appearances of malignant disease were so clear that it was not thought worth while to remove anything for microscopical examination which I now greatly regret. Gastro-jejunostomy was performed. Not only did a rapid recovery from the immediate effects of the operation follow, but the tumour steadily decreased in size until it was imperceptible. The man is still alive and in fair health, the operation having been performed five years and four months ago. The case is additionally interesting from the fact that it is, I believe, the only instance on record in which a patient has survived so long after gastro-enterostomy for what appeared to be undoubted malignant disease.

CASE 7.—A female patient, of middle age, was sent to me on account of a large tumour in the lower part of the neck. She was well nourished but her aspect was somewhat anxious and inclined to sallowness. The skin generally was inelastic, especially about the root of the neck on the sound side. On the right side of the neck low down was a mass apparently glandular which was quite fixed at its lower part, where it extended under the clavicle, becoming continuous with an area of dulness behind the upper end of the sternum. The tumour was insensitive to pressure and excepting its mere existence caused no trouble. There was neither dysphagia nor dyspnœa but over the upper part of the acromion there was an area of anæsthesia as if one of the descending branches of the cervical plexus had been involved. So far as its clinical aspects were concerned the mass seemed undoubtedly malignant and probably secondary to some deep primary lesion. The ultimate result seemed certain and the case was obviously outside the limits of justifiable surgical interference. I therefore wrote to that effect to the medical attendant, but added that from wh
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In the examples oth category I do not propose to include the shrinking at phic cancer of old age but shall confine myself to cas o growths which, originating in middle life when the itutional powers are vigorous, become after a period activity perfectly passive, neither diminishing nor increa in bulk and causing no pain or other symptom indica of life in them. Microscopical evidence of malignan must of necessity be difficult to obtain in such cases ce they are usually those which escape operation either exploratory or curative purposes. The majority of the cases occ in the female breast, but they are seen elsewhere, more esp lly in malignant disease of the glands.

CASE 8.—A man, aged forty years, was admitted into St. George's Hospital under my care in June, 18 on account of a tumour of the right testicle of nine months growth. The disease seemed obviously malignant and no secondary deposits were found upon his admission. Castration was performed early in July and the growth proved to be "encephaloid carcinoma." The operation wound healed immediately and no abnormal rise of temperature occurred. A week subsequent to the operation a hard mass was indistinctly felt below the liver passing towards the loin. A little later a hard mass developed in the iliac fossa; it was fixed and presented all the clinical characters of a mass of malignant glands. The masses increased in size, but were painless. The temperature was normal and no inflammatory symptoms of any kind were present. The case was regarded as hopeless and the patient left the hospital to go to the seaside where, although he seemed to improve in general health and nutrition, the tumours continued to increase. Six months after the operation there was extensive painless œdema of the right lower limb clearly due to the pressure of the iliac mass; the left lower limb was also slightly swollen; the urine was normal. When I saw the man in this condition I naturally thought that his end was not far off. In this, however, I was mistaken, as about four months later he again showed himself in better health than he had been in since the operation; the œdema of the lower limbs had entirely gone, the mass in the iliac fossa was hardly perceptible, but the sub-hepatic tumour could still be plainly felt. He came under observation again two months later, when the iliac mass had disappeared, whilst the other tumour above had shrunk to about the same size as when it was first discovered. He was specially asked to report himself again if he became worse, but I have heard nothing further of him.

CASE 9.—In 1893 I removed the left mamma of an unmarried woman about thirty-six years of age, on account of a tumour which proved to be a slowly growing scirrhous carcinoma. She remained well until 1896 when the opposite breast showed evidence of malignant disease; it was therefore removed and upon examination it showed a large number of involution cysts and a mass of rapidly growing scirrhus of the size of a walnut. The patient was of splendid moral fibre and placid in disposition; she appeared to attach little or no importance to the disease, so much so that she did not inquire as to its nature and resumed her ordinary occupations and amusements after each operation with commendable energy. Soon after the second operation some hard nodules appeared along the scar of the first operation wound. These were followed by others in the skin of the typical carcinomatous aspect; there were about a dozen in all, the hindermost nodule being only a little in front of the scapular angle. To these she paid no attention. I have recently seen her in perfect health; all the nodules have disappeared excepting one close to the middle of the scar which appears quite harmless. This case affords the nearest approach to the complete spontaneous disappearance of carcinoma which I have up to the present seen.

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[1] This case should come in the next class but more conveniently follows immediately upon Case 4.

operation often depress the patient an constitutional power of resistance, brtail because the nature growth in the process of remov verified by the micro- cancer juice (I the term not oöphorectomy or any other but because it conveys a ver in the last case it would have possible result of a direct e example of the success of the there is, so far as I a show that in cases of at the age of thirty-six years became where they most c umour in the right breast which a sur- in any way m ed whose judgment in such cases may be disease. allible pronounced to be scirrhus. From the The truth is when first discovered it increased to the size the removal o in about eighteen months. It then became slightly smaller and more flattened in shape, the skin at the same time being drawn in towards the tumour. I saw her fifteen years after the original appearance of the disease and she declared that no change of any kind had occurred in that time; she merely consulted me on account of a small boil in the axilla which she thought might possibly be connected with it The patient was stout and healthy-looking; the tumour was characteristic, freely moveable upon the parts beneath but the skin was adherent over it. As it was at the extreme axillary margin of the breast it might easily have escaped notice altogether. I saw the tumour again five years later; it was unaltered. The patient remained in excellent health until the formation of an acute abdominal abscess, probably pericæcal, which terminated fatally.

It would be easy to give other examples of this kind which I believe are more common than is generally supposed.

CASE 11.—Amongst those cases of which I have had personal experience was that of an old lady who died at a great age with a characteristic scirrhous mass in the right breast which from unimpeachable evidence had remained unchanged for many years.

TUMOURS APPARENTLY INNOCENT WHICH RUN A MALIGNANT COURSE.

Recurrent tumours originally innocent which in the course of years become malignant are not rarely met with—for example, I have recorded a case in the Transactions of the Clinical Society of London in which an innocent fibrous naso-pharyngeal polypus became in the course of about twenty years malignant and finally led to the patient's death. With cases of that kind I am not at present concerned, as in those which I have here in view the change from innocent growth to malignancy is rapid.

CASE 12.—A woman, aged about thirty years, was admitted into St George's Hospital in February, 1898, with a pedunculated dusky tumour springing apparently from the gum close to the socket of the left anterior molar tooth which had been extracted a few months before. The growth was not larger than a horse-bean and gave rise to no trouble excepting constant bleedings which followed mastication. The appearances were consistent with epulis and the tumour was therefore removed as freely as possible, the actual cautery being thoroughly applied to its point of attachment. Upon microscopical examination the tissue removed was reported to consist merely of granulation tissue. The patient was discharged about the middle of March. In October she presented herself at the hospital again. In the site of the original tumour was a hardish mass of the size of a small walnut which seemed to sprout from the margin of the jaw which was somewhat expanded. No trouble beyond the bleeding similarly associated with the original growth was complained of. A portion of the tumour now removed was reported to be typical of myeloid sarcoma. The mass, together with the portion of the jaw from which it sprang, was removed. No tendency to recurrence has since shown itself In this case it will be seen that a perfectly innocent type of new growth was succeeded by a sarcoma in less than six months.

CASE 13—A man of fine physique, forty-two years of age, consulted me with the following history. For a year or more he had been troubled with nasal polypi which had been removed by the surgeon who brought the patient to me In consequence of the rapid recurrence of the polypi and because they seemed to project into the nose through the opening from the antrum they had been submitted to microscopical examination, with the result that they were pronounced as innocent mucous polypi of the ordinary kind. The cause of a further opinion being sought was a bulging which had recently appeared above the alveolar margin on the left upper jaw which was to my mind suggestive of malignant disease. Electric illumination of the antrum showed nothing positive; it was therefore decided that the bulging portion should be incised for exploratory purposes with the object of obtaining further material for pathological report. At this time beyond the bulging of the jaw above the alveolus there was no evidence of any kind of intra-antral tumour. The exploration was duly made by the surgeon in whose charge the patient was, a little viscid fluid escaping upon the making of the incision; this together with some gelatinous material which was taken away was submitted again for examination, but it afforded nothing in the least suggestive of malignant disease. Shortly after this a polypoid mass was again removed from the nose, but it was much more fibrous in consistence than the previous polypi. Again, the microscope showed no positive evidence of malignancy, Within six weeks of the bulging of the alveolar border referred to there was distinct evidence of antral tumour and I removed the jaw. I can safely say that I have never had to do with a tumour of the upper jaw of a more malignant aspect. The whole bone was soft and infiltrated. Its removal as a whole was out of the question; it was taken away piece by piece. The tumour which evidently sprang from within the antrum was of the consistency of blood clot. The result of microscopical examination of the tumour thus removed was inconclusive, for although the structure of the growth was compatible with sarcoma its variation from the type of innocent tumour was not great, so that a fair prospect of freedom from recurrence was held out. The tumour which had been most freely removed recurred almost before the operation wound had healed, and the patient died partly from exhaustion and partly from symptoms of cerebral tumour within six months.

CASE 14.—A man, aged thirty-three years, was admitted into St George's Hospital in April, 1898, on account of some "stuffiness" about the back of the throat, inability to breathe through the nose, and occasional epistaxis. Upon examination the naso-pharynx was occupied by a softish nodulated mass which bled moderately after manipulation. As its nature seemed doubtful a fair-sized piece was removed for microscopical examination and was reported to present the appearances of lymphoid tissue only. An operation was therefore performed about a fortnight later as if the case were one of adenoid growth, a large quantity of soft material being removed in all respects identical with the portion previously submitted for microscopical examination. The report upon this was to the effect that although its nature was somewhat doubtful it was compatible with sarcoma Immediate recurrence followed, extensive glandular enlargement in the neck succeeding.

CASE 15—I removed from the leg of a female patient, aged about fifty years, a scar resulting from an injury received twenty years before which had become hard and nodulated during the previous six months; the disease had all the appearances of epithelioma. Upon microscopical examination it was reported to consist purely of fibrous tissue without any evidence of malignant structure; many sections were examined with the same result The patient was therefore assured that the condition was harmless. Within six months of the operation a small nodule appeared at the upper end of the wound; it was a typical specimen of squamous carcinoma.

MENTAL CONCENTRATION UPON A PART AS A FACTOR IN THE INCREASE OR DEVELOPMENT OF NEW GROWTHS.

The tendency of general mental worry towards the development of certain diseases in persons predisposed to them is a matter of common knowledge, the cause in all probability being the resulting diminution in the normal powers of resistance. Little attention has, however, from a surgical standpoint been paid to the effects of continual concentration of the mind of a patient upon a particular site already affected by some abnormal condition. The interest in the matter is not only abstract but it has a practical side of some importance. The following cases will indicate exactly what I mean by the effects of mental concentration.

CASE 16—A woman, aged thirty-six years, had a small fibro-adenoma on the right breast which had existed for ten years and had undergone no change whatever from the time of its discovery by accident when she was twenty-two years old. It was regarded as being of no consequence; in fact, so little importance did the patient attach to the matter that she said she had really forgotten its existence She was not a nervous subject in the ordinary sense but was rather easily impressed with the importance of any subject if forcibly brought to her attention. In conversation with a friend on a certain occasion she was reminded of the tumour and mentioned its existence. Her friend at once appeared much concerned and advised her to seek advice at once or "cancer might result." The word "cancer" alarmed her greatly and appealed to the impressionable side of her disposition. From the time of this conversation she assured me that although she refrained from seeking professional advice her thoughts were seldom if ever removed from the tumour, night after night she lay awake thinking of the terrible possibilities of the lump to which she had previously hardly given a thought. At the end of a fortnight she noticed some pricking pain about it and a month afterwards when she consulted me after a long interval it was certainly as large again as when in its original condition. In spite of reassurances the mental attitude remained unaltered and the tumour continued to increase and was removed. It was an ordinary fibro-adenoma and with the assurance of its *innocence* after its removal the patient's apprehension was allayed and no further trouble has arisen.

CASE 17.—This is a much more striking instance. A woman, aged about forty years, who had every cause to fear cancer from her family history and other reasons, developed a small cystic tumour in the right breast, at the discovery of which she was greatly alarmed. I have never seen such an exaggerated degree of fear with regard to cancer in any patient. The tumour was removed and proved to be, as was expected, a perfectly innocent cysto-adenoma of the common type. In spite of all reassurances the fear of cancer prevailed and the patient thought of nothing else by day and night beyond the possibility of the disease attacking the spot from which the tumour had been removed. Her mind was, in truth, continually fixed upon the spot and she told me that even when at the theatre or in society, &c., her thoughts were really never removed from the site of her trouble. The scar, otherwise perfectly healthy, became at the end of a month sensitive and she complained perpetually of shooting pain about it. Six months later a hard, indurated mass had developed in the breast at the outer side of the scar from which it was inseparable, the skin being puckered over it. The breast was removed a little later and the growth was a typical scirrhus of rapid growth.

It may of course be said that there is nothing beyond coincidence in these cases and had they been the only equally marked instances with which I have met I should probably be inclined to that view, but I have seen some other equally clear examples like the first case and one other like the second whilst at the present time I have under observation another case which seems likely to end in the same way.

REMARKS ON THE FOREGOING CASES.

In the cases which I have described there is nothing intrinsically remarkable; any surgeon of considerable experience could probably produce an equally characteristic series. Many instances of spontaneous disappearance of abdominal tumours presumably malignant have been from time to time recorded, although in the majority the results of microscopical examination were for sufficient reasons not forthcoming, but I am not aware of any set of cases of so comprehensive a kind as the present having been published. In their selection care has been taken to exclude those in which syphilis or tubercle could in any sense be considered a possible factor and such changes as occurred were quite independent of any medicinal treatment. In the cases in which the disease was subjected to pathological examination it is clear that the microscope was powerless to indicate their future progress although the anatomical characters were plain enough and the innocence or malignancy of the growths had to be determined by their clinical behaviour. It therefore appears that in a certain percentage of cases the histological character of a new growth is no reliable index to its malignancy or the reverse. This is especially emphasised in some of the cases now described as the specimens examined were typical and well defined. The distinction between granulation tissue and certain round-celled sarcomata is sometimes so extremely slight as to amount practically to nothing; so much is this so, indeed, that it is conceivable that the one may be confused with the other even by expert observers, as is shown, for example, by the following case.

CASE 18.—A girl, aged thirteen years, was admitted into St. George's Hospital under my care with some deformity of the humerus just below the surgical neck caused (it was stated) by the bone having been fractured in the same place three times during the previous year by comparatively trivial injuries, a very unusual sequence of events in such a subject who, beyond being rather delicate in appearance, seemed healthy, showing no sign of rickets or any other condition tending to brittleness of the bones. There was slight angular deformity at the spot alluded to and apparently a very large *amount of callus*. The union appeared to be good. A skiagram was obtained and the mass then appeared to be of the nature of a growth rather than callus. An exploratory operation was therefore performed and the mass was found to consist [illegible]in shell of bone containing a quantity of dark fluid and lined by a vascular jelly-like material of rather firmer consistence than blood-clot which was readily scraped away from the bony cavity which it lined. The cavity extended so near the *shoulder-joint that* any resection of the affected portion of the bone seemed inadvisable. As the contents of the cavity presented in aspect, consistence, &c., all the characteristics of malignancy amputation at the shoulder-joint was performed after consultation with one of my colleagues who was present. The microscopical examination of the material removed showed granulation tissue only; it was therefore quite clear that if this evidence was to be relied upon we had done this child a grievous harm in removing the limb. *To any one, however, who had seen the growth in situ* no possible doubt could have presented itself as to its malignancy, and in spite of the microscope revealing the characteristics only of an innocent tumour I am sure our proceeding was right. This belief was to some extent supported by the condition of the child when last seen. Her complexion had assumed a curiously wax-like appearance, the veins about the left upper chest and over the shoulder were much dilated and there was a suggestive area of dulness behind the clavicle. The left side of the chest moved rather less freely than the right, but that of course may possibly have been due to the loss of the use of certain muscles in consequence of the amputation.

The only tumours entirely disappearing spontaneously which have come under my observation have apparently been sarcomatous. I have never seen complete disappearance in a case of undoubted carcinoma, the nearest approach to it being that described in Case 9. As to the causes which lead to the occasional spontaneous disappearance of the sarcomata it is idle at present to speculate, but it certainly seems that actual interference with the integrity of the growth does in some way tend to its disappearance. It can, for instance, be hardly conceivable that the tumour of the testicle described in Case 4 would have disappeared if the exploratory puncture had not been made; the subsidence of the tumour commencing immediately upon the puncture is strong circumstantial evidence in this direction. Moreover, unless my recollection *misleads* me, I fancy that in the cases in which sarcomatous tumours have been treated by ligaturing the main blood-vessels supplying them the most striking results have followed when the structure of the growth itself has been laid open in the process of finding the vessels. It is a matter of much interest in connexion with this part of the subject that, so *far as* I know, no sarcoma on the surface of the body has disappeared spontaneously after incision or rupture of its structure; the cases of spontaneous disappearance seem to be limited to the disease when occurring inside a closed cavity like that of the abdomen or tunica vaginalis.

With regard to the cases of quiet carcinoma in *the condition* of negative malignancy, they are, I fancy, judging from personal experience more common than one would be led to expect from the literature of the subject. I have watched several of such cases occurring in the breast carefully over considerable periods and, assuming for the moment that the removal of carcinoma by *operation* (speaking generally) is a proper treatment, I believe that the best interests of the patient in cases like these are met by avoiding operation. It is true that it has been stated that if these quiet tumours are left untouched secondary visceral deposits, &c., are more liable to occur, but of this statement I am unacquainted with any proof and certainly the removal of these growths does not always obviate the tendency to subsequent developments, for I well recollect a patient being brought to St. *George's* Hospital with malignant disease of the vertebral column from whom Mr. Henry Lee had removed a "stony cancer" of the breast, ten years previously, the site of the operation being perfectly free from disease. Not only does the prospect of an operation often depress the patient and diminish the ordinary constitutional power of resistance, but the handling of the growth in the process of removal is prone to express the cancer juice (I use the term not of course in a scientific sense but because it conveys a very definite meaning), with the possible result of a direct local inoculation. In addition there is, so far as I am aware, no certain evidence to show that in cases of this kind, at all events in the breast, where they most commonly occur, life is prolonged or made in any way more comfortable by the removal of the disease.

The truth is that the proper estimation of the real value of the removal or other treatment in carcinoma is an enormously difficult matter. What, for instance, could have been better evidence of the successful result of oöphorectomy, supposing that treatment had been adopted, than the behaviour of Case 9? Moreover, in certain cases, especially those of the negative kind, the fact that recurrence does not take place for many years affords in reality no strong grounds for argument in favour of removal, as it is known that some of these tumours remain harmless for years when entirely left alone. I must here confess to being one of those who think that the operative treatment of carcinoma is carried to excess at the present time and, in my opinion, much more evidence than we now have at our disposal is required to prove that great benefit is derivable by operation in many of the cases treated. Moreover I think that in the case of the mamma which for surgical purposes provides so many cases of cancer the actual mortality of the disease has been to some extent over rated, as the bulk of the statistics dealing with the subject merely show the average length of life which follows after the discovery of the disease or upon its removal by operation in those who die from the disease, little or no account being taken of cases in which although cancer may exist the death of the patient is due to causes independent of it, the patients, in fact, dying with the disease but not from it. Of this class of cases I could give several instances in my own experience; in one the condition was only discovered after death, the patient having either been unconscious of its existence or having been successful in concealing it. In another case a patient who died from other causes had a shrunken painless carcinoma of the breast which she had succeeded in concealing for many years.

The cases of tumour histologically innocent at their commencement subsequently pursuing a malignant course are interesting and again show the occasional unreliability as an aid to prognosis of the results of microscopical examination. In the cases related there was no question of the failure in this respect being due to the provision of inadequate "specimens"; in one case the whole growth was submitted and in the others gross pieces taken from the centre of the tumours were provided. In cases like those illustrating the effect of mental concentration upon a part I am strongly of opinion that the increase in the growth of innocent tumours or the development of malignant disease may sometimes be dependent upon the mental attitude of the patient towards the affected spot. In 2 cases of what I have called negative malignancy I have seen tumours which had remained quite unchanged until the patients, previously ignorant of the probable nature of their complaint, unhappily had the suggestion made that the disease might be "cancer." Mental concentration was the result in each case and rapid increase followed.

I am further as sure as it is possible to be in the circumstances that recurrence of malignant disease after removal is not only more certain but more rapid in nervous, susceptible people than in those who are placid and dread less the second on coming of the disease. In using the term "nervous" here I do not intend it to be identical with "hysterical" in meaning, for it is my impression, without being able to adduce actual statistics to support it, that as a class hysterical subjects are less prone to malignant disease than those who do not belong to that type. By the term "nervous" I mean a certain class of sensitive, impressionable, and often very timid subjects who must be familiar to all practitioners, and it is in these subjects that the effects of mental concentration in the relation now being discussed are seen. Of the difference of the rate of growth in apathetic subjects as compared with that in nervous subjects it would be easy to give examples if time permitted. Case 9 already described is a sufficient illustration of the progress of a carcinoma in an apathetic person. The relatively slow growth and recurrence in some old people as compared with the rapid progress in the young is, I have little doubt, to some extent at all events although of course not entirely, accounted for by the blunted perceptions of the older subjects. Out of this matter a practical question arises. If I am in any sense right in my contention that the increase or development of new growths may in some degree be subject to mental influence what is the proper attitude of the surgeon towards the patient with respect to divulging the actual nature of the disease when it is malignant? On this point there is, I suppose, certain to be some difference of opinion since it is the custom of some surgeons at once to inform the patient of the nature of the disease if certain, or of its suspicious aspect if doubtful, without regard to individual peculiarity or susceptibility, and there can be no doubt that in the strictly abstract moral sense this attitude is from the point of view of the surgeon correct. It is, however, in my judgment certain that in some sensitive dispositions a direct opinion of this kind which is tantamount to a sentence of death may be followed by rapid increase and dissemination of the disease, and I am firm in my conviction that the suggestion sometimes made with regard to the possibility of an innocent growth becoming malignant is in such subjects a direct incentive to the increase of the growth and possibly to the change from innocence to malignancy. It is therefore, I submit, clear that no routine practice should be adopted in this matter but the attitude of the surgeon should, I think, be guided as much by the disposition of the patient as by the apparent nature of the growth. Indeed, in certain individuals, under some circumstances it is, I conceive, justifiable to conceal the nature of the disease, if possible, by deliberate deception, provided that the responsible friends or relatives are made aware of the exact condition of affairs. This question is one of extreme difficulty and requires more discrimination and tact on the part of the surgeon than any ethical question of a similar kind with which I am acquainted.

CONCLUSIONS.

A careful study of a considerable number of cases of which those just described in detail must be taken merely as characteristic examples and not as an entire experience leads me to the following conclusions:—1. That certain tumours although undoubtedly malignant in structure pursue an innocent course and disappear spontaneously. 2. That certain tumours malignant in structure become quiescent, assuming a condition of negative malignancy. 3. That some tumours originally innocent in type pursue a course of extreme malignancy. 4 That microscopical examination in a certain percentage of cases is powerless to determine whether a growth will prove malignant or innocent in its course. 5. That the clinical behaviour of new growths is often a better test of malignancy than microscopical examination. 6. That mental concentration on the part of the patient upon the site of the disease is a distinct factor in stimulating the growth of innocent tumours and in the production of malignant disease in certain susceptible subjects. 7. That in nervous subjects of the type described recurrence of malignant disease after operation is more certain and its growth more rapid than in persons of a placid or apathetic disposition. 8 That evidence is wanting to show that operation in cancerous tumours of the breast which have assumed the condition of negative malignancy is as a rule necessary or advantageous. 9. That although the practice of candidly announcing to patients suffering from malignant disease the nature of their complaint is, speaking generally, moral and salutary it may be modified with advantage in patients of the nervous type already indicated.

In expressing these views I am aware that some of them may be directly opposed to those held by many surgeons. They are, however, deliberately advanced after due consideration. The time at my disposal is only sufficient to enable me to touch the fringe of a subject of considerable magnitude which those who think it worthy of investigation will, I think, find of unusual interest.

BRITISH PHARMACEUTICAL SOCIETY.—The annual meeting of the British Pharmaceutical Society will be held in Plymouth next July. The society visited Plymouth twenty-two years ago and the local committee are already taking steps to ensure the success of the meeting.

"collaterals" by Ramon y Cajal, the relations of which are imperfectly known. They have been seen to end by a T-like division and ultimate branching.

The definite and extended discernment of another fact deepens the importance and application of that just described. Thirty years ago[9] Max Schultze discovered and depicted the fact that the axis-cylinder is compound and not simple, that it consists of a large number of fibrils—"primitive fibrils," he termed them. He pointed out that they could be traced throughout the fibre, separated by a finely granular substance. They could be well seen where the axis-cylinder widens in joining the nerve-cell—that is, where the cell narrows into its chief process. Others could not see the significant striation, among them Ranvier, whose work dominated science throughout the next fifteen years, and the fact was practically ignored. The axis-cylinder was regarded as simple and integral, until recent methods have enabled the clear establishment of the correctness of Max Schultze's observations. The number of fibrils which constitute an axis-cylinder is considerable. Obersteiner has found that there are about fifty in an axis-cylinder of the sciatic nerve of the frog.[10] These fibrils consist of a conducting substance, the "hyaloplasm" of Leydig and Nansen (so termed from its greater translucency in hardened tissue). This is isolated by a slightly granular material, distinguishable chiefly by its difference of aspect and staining after the changes produced by hardening agents. It has been termed the "spongioplasm"—"plasm" because it also has a soft consistence, "spongio" because it is said to form trabeculæ which constitute the chief element in the ground substance or matrix of the "spongy" grey substance[11] in which the cells lie and their processes branch. From this compound constitution of the axis we must infer that its terminal [illegible] branches is merely the separation of these division [illegible] and at last into single fibrils—fibrils, first into gr[illegible] so at the periphery and in the "primitive fibrils." It [illegible] be termed "axites," grey matter. The final twigs [illegible] The short branch- if a special designation seems needed.[12] [illegible] fibrils, processes have been found to consist of [illegible] of is true also of those supposed to be extensions [illegible] [illegible] of the cell and therefore called "proto- [illegible]cesses." This name should be given up with the [illegible] attached to it. The opinion that their function convey nutritive material to the cell-body was, indeed, never more than an hypothesis, resting on no real foundation.[13]

With the recognition of the fibrillary constitution of the axon and dendrons has been associated an equally important recognition of the fact (most clearly depicted by Max Schultze[14]) that their fibrils pass through the body of the nerve-cell without interruption. Those of the axon diverge to pass to the several dendrons, but those of the latter do not pass all to the axon. Some pass directly to other dendrons, so that in such there must be conduction from the cell as well as towards it.[15] Moreover, both Ramon y Cajal and Kölliker have observed in certain cells of the cerebellum all the fibrils of an axis-cylinder pass directly to a dendron, scarcely entering the body of the cell. Twigs from such processes of small cells, especially in the invertebrata, have been said to join the elements of the neuroglia.[16] The fact is in harmony with the origin of both from the same embryonal tissue. The differentiation of the nerve elements from this may leave some blending of structure. It must be remembered that there is much uncertainty regarding the nature of many of the smaller cells, and it is conceivable that some are nervous and some neuroglial and that there may not be always actual separation of their connexions.

An essential difference between the axon and the dendrons cannot as yet be established. Branching does not differentiate them, for the axon also branches after a long course. Nor does either multiplicity or length. The cells of the posterior ganglia of the cord have but one axon and one dendron, united for a short distance as the single process of the "unipolar" cell. These two processes are of nearly equal length in the case of those cells that give rise to the fibres of the posterior median column; these, reaching the cord by the posterior roots, ascend to the level of the medulla, while the other division of this cell-process probably comes from a muscle as far away. We see also in this instance the absence of any real distinction from the direction of conduction. Although the axons of the motor cells conduct from these, so also must some of those dendrons to which fibrils pass from others. Moreover, in the case of the posterior root-fibres, which go to the local grey matter the long fibre from the periphery conducts towards the cell; the shorter fibre, which soon branches in grey substance, conducts from it. Opinions may differ as to which should be regarded as axon and which as dendron, but analogy suggests that the latter should be that which soon ends in the grey substance. Yet it is difficult to avoid regarding each fibre of the cells related to the posterior median column as an axon. There is no reason for regarding either a dendron or an axon as an essential element of a cell. Yet the distinction is necessary, and the general application of the names is justified by the common difference between the one medullated process which passes out of the grey matter and the other numerous processes which are not medullated and soon divide within the grey substance.

The extent to which the physiology of the nervous system is inferred from its minute anatomy is illustrated by the revolution in our conceptions produced by the discovery of the discontinuity of its elements, the fibrillary constitution of the conducting structures, and the course of the fibrils. These, passing through the nerve-cells without interruption, can merely [illegible] through the cell-body as they do elsewhere in [illegible] course. With this fact disappears the [illegible]mple, apparently so adequate and reasonable from its superficial analogies—the idea that the nerve-cells are the seat of the production of nerve-impulses, that in them "nerve force" is generated from the latent energy stored in the nutritional compounds which have entered into their constitution. But we cannot have such generation where the fibrils are continuous. For it we must look to their extremities, formerly supposed to be in the cell-body, now perceived to be in the "spongy grey substance." The process must be where the continuous fibrils begin in the centre, as it is in the skin and other parts of the periphery, in the case of fibrils that conduct thence. As all the nerve-impulses that reach the centres, through which external influences act and the environment is perceived, originate in the minutely separate nerve material at the extremity of the afferent fibrils, so all the outgoing impulses and those which pass from one part of the centres to another originate in their special form at the analogous extremities of the fibrils in the grey substance. We must conceive these impulses arising in the extremities of the "cellulipetal" dendrites (to use the somewhat cumbersome term of von Kölliker) being excited in some way by the stimulus of the impulses which reach the contiguous extremities of other "cellulifugal" fibrils, dendrites, or branches of the axon of a distant cell. The incoming impulses may excite those that go out, as impulses are excited at the periphery by other forms of energy; or there may be a process of conduction through the intervening ground-substance—the matrix in which the cells lie and the dendrites end. For the increase in the amount of nerve energy which often takes place there must be more than conduction, its production must be "excited" by that which is conducted. We can conceive such excitation without continuity, especially when we consider that the stimulation of muscular protoplasm is by the impulses in nerves which terminate on the fibres, and not in continuity with the contractile substance—indeed, separated from it by a structure apparently quite different in its simpler nature.

If this conception of the origin of the impulses in the terminations of the fibrils seems less easy than their origin in the more massive nerve-cells we must remember how multiplicity neutralises minuteness. Indeed, the minuteness of the conducting fibrils almost involves a multiplicity of minute sources of nerve impulses—which must, moreover, be far from minute in comparison with the molecules from the latent energy of which the impulses proceed. All modern discoveries prepare us for finding every mass to be an aggregation and each perceptible quantity of energy to be made up of minute constituents, every one of which is definite both in its separate character and in its contribution to the effect of the whole The finely divided nerve-substance will constitute a total source of energy as adequate in extent as a nerve cell, with a more obvious facility for the renewal of the molecules lost in functional action and far greater opportunity for varying relation to the structures from which the impulses are received

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[9] In 1868; see Stricker's Histology (New Sydenham Society's Translations). The observations were confirmed by Babuchin in 1868 and 1869.

[10] Personal communication.

[11] Apathy, Biologisches Centralblatt, 1889. The term "spongy grey substance" was before in use on account of the sponge-like interlacement of the cell-processes. The conception attached to it has thus become somewhat confused.

[12] Especially since one writer has termed them neurites, which would be confusing unless the axis-process were termed the "neuron," as it certainly will not be. The only proper use of this word (neurites or neuronites) would be for the terminal twigs in general.

[13] That these dividing branches, long and not obviously permeable, should be the channels by which the cell receives that which could pass directly through its walls was simply a positive inference from the negative fact that no other function was obvious. That we must cease to consider these processes "protoplasmic" and nutritional was insisted on in 1890 by Rabl Ruckhardt (Neurologisches Centralblatt).

[14] Loc. cit.

[15] Von Kölliker: Würzburger Sitzungsberichte, Nov. 23rd, 1889.

[16] Among others by Ladowsky: Verhandlungen des Medicinischen Congress, Berlin, 1890, Band ii., p. 92.

What then is the function of the nerve cell? The one certain fact established by evidence that is secure is that on *it depends the life of the nerve fibres—the vitality of all the* processes equally that of the dendrons and of the axon The evidence of this the immediate degeneration of any separated part is well known It is less conspicuous in the case of the dendrons but sufficiently certain How the influence is exerted we can only surmise The nucleus of every cell is its life centre and in some way the nutrition of the protoplasm is determined by it The cell body has a complex structure dimly perceptible by the help of reagents, at present beyond our practical comprehension One distinct fact, however, is that the protoplasm of the cell extending into the narrowing axon thins away between the outer sheath and the white substance, becoming unrecognisable until one of the many nuclei is reached Each of these is surrounded by like protoplasm also thinning off along the fibre until invisible It is certain also that if the cell body and nucleus are destroyed or the fibre separated the process of degeneration begins by changes in these nuclei They seem to be concerned in carrying on the influence of the distant cell, and it is not easy to conceive any other path for this influence than a thin layer of protoplasm within the sheath, continuous from nucleus to nucleus, vitally influenced by these and conveying by its own nutritional state, that of the cell *A space in this position is rendered* visible by reagents which make the contents of the sheath shrink Indeed coagulated material in small quantity can be seen within it [17] This has been regarded as evidence of the presence during life of such a space as is here assumed to contain connecting protoplasm

Many facts previously obscure became more intelligible in the light of the new discoveries The knowledge that the cell governs the nutrition of the fibre and the belief that from it proceeded the nerve impulses involved a correspondence in the direction of nutritional influence and of conduction, and it was found, in fact, that conduction and degeneration were in the same direction as a rule, but only "as a rule" It was untrue of the sensory nerves These coming from the cells of the ganglia on the posterior spinal roots degenerate downwards but they conduct upwards—an anomaly which had to be simply ignored The fact is now seen to be in harmony with others The arrest of secondary degeneration in the grey matter, the fact that the degeneration of the fibre which enters the grey matter never passes on to the next nerve cell, through which conducted impulses *must pass, was* mysterious when they were believed to be in continuity The discontinuity explains it at once The degeneration is limited to the single neuron The division of the axis cylinder at its terminal ramification whether that of the sensory nerve in the skin or of the motor nerve in the muscle was scarcely intelligible when the axis cylinder was regarded as a single conducting path, it is so when we perceive that the apparent division is simply the separation of its constituent fibrils each a distinct conducting path This fact is moreover, especially important in relation to the minute localisation of the various forms of sensation in the skin The sensory nerve fibres themselves are not numerous enough to subserve this localisation, which could not result from the division of an axis cylinder that conducted as a whole The fact that the special form of energy termed a "nerve impulse" may arise in a fibre in its course under the action of a stimulus that the capacity of the fibres is not limited to 'conduction' is less surprising if we conceive all such impulses as produced at their extremities

While old difficulties thus disappear and many facts become more readily intelligible so great a change of our conceptions involves new difficulties Not only are the structures concerned most minute, but their discernment depends on the use of reagents which reveal them by developing differences in aspect due to chemical changes; new physical characters have been produced by other agents of the same nature There seems but little original difference in consistence between the material that constitutes the conducting axis of the "primitive fibrils" and that of the separating substance Both are apparently almost diffluent during life, and are indistinguishable physically until their difference in constitution is revealed by the action on them first of the chemical agents that harden and then of those that stain [18] Both processes involve molecular chemical changes which multiply initial differences and leave the actual amount of these more obscure than we are apt to think

The conducting element of the fibrils the 'hyaloplasm" or "kinetoplasm," is said to be more diffluent than the separating "spongioplasm" but the difference may be chiefly due to the hardening agents used Continuous within the tubules and through the cell body into the dendrons it has been said that beyond these it is also continuous with similar material in the matrix of the spongy substance Into this also the spongioplasm is said to pass and form a trabecular structure The fact that the fibrils as stained by Golgi's method, apparently end must indicate that these elements, if continuous with those of the matrix are different in nature in some degree The difference may be much exaggerated by reagents, and yet sufficient to constitute the functional discontinuity which is generally assumed to be as structurally absolute as it appears in the sections Until we know what the structure of the matrix is we can scarcely conjecture the nature of the process that occurs in it between the dendrites 'Conduction' may have been too readily regarded as impossible and it is not clear that actual conduction of nerve impulses is incompatible with the augmentation which we include under the term "excitation" An increase must occur when for instance, in many reflex actions the afferent impulse that reaches the spinal cord is minute in proportion to that which leaves the centre We *seem thus to have a* process of stimulation comparable to that in the cutaneous nerves (themselves apparently analogous to dendrites) under the influence of some other form of energy from the outside In this connexion it is especially noteworthy that many dendrites terminate in knob like enlargements suggesting receptive functions We do not know the nature of a nerve impulse We must, however, assume that it is energy in some form of motion released from that previously latent in the nerve substance, apparently the "kinetoplasm" or 'hyaloplasm' Chemical change occurs by which simple compounds are formed as in all similar processes and the simplest conception is that the process is like that in a train of explosive material modified, restricted but perhaps accelerated by the influence of life [19] The motion of a touch which acts upon the nerve endings in the skin reaches them by passing through the skin as the simplest form of motion, so also pass the special forms of wave motion that constitute electricity and heat A differentiation of the nerve tissue in *the ending* seems to enable their molecules to receive one special form of motion most readily Hence our "special senses" The manner in which the equilibrium of the nerve-substance is disturbed in each doubtless differs much but it is instructive to note in connexion with the theory of the nerve impulse just suggested that the wave motion of light seems first to induce recognisable chemical changes in material of unknown nature

The application of these new conceptions to disease we must postpone to another occasion

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[17] Schiefferdecker: Archiv fur Mikroskopische Anatomie Band xxx 1837

[18] In connexion with the fact that molecular differences between substances apparently the same even when examined with the utmost minuteness may be revealed by staining the facts of the colour photography of Cassagne may be noted The waves of light which differ only in rapidity and length but by this excite different elements of the retina reduce a special silver salt in the gelatin film in different degree. *Extremely slight* as must be the resulting difference in the molecules which is produced it apparently suffices, augmented by some additional chemical process, to make each of them retain some stains and not others

[19] This view has been developed at length in the writer's "Dynamics of Life" (London Churchill 1894) but was clearly stated by Herbert Spencer Elements of Biology, vol. i 1864.

ROYAL PORTSMOUTH HOSPITAL.—The Hospital Saturday Fund collection in Portsmouth and district for the year 1898 was larger than for
amounted to £1169

TABLE OF RESULTS OF EXPERIMENTS SHOWING THE INFLUENCE OF THE MILK-SUPPLY ON THE SPREAD OF TUBERCULOSIS.

Milk-supply.	Number of experiments.	Amount in c.c. inoculated.		Number in days that death took place after inoculation.		POST-MORTEM EXAMINATIONS.																Reference number.*
						(α) Macroscopic.											(β) Microscopic.					
		Creamy layer.	Sediment.	Killed.	Died.	I. Seat of inoculation.	II. Right inguinal glands.	III. Right lumbar glands.	IV. Abdominal glands.	V. Cœliac glands.	VI. Bronchial glands.	VII. Right axillary glands.	VIII. Glands on left side of body.	IX. Spleen.	X. Liver.	XI. Lungs.	XII. Cover-glass preparations.	XIII. Glands.	XIV. Spleen.	XV. Liver.	XVI. Lungs.	
M	71	2·5	—	114	—	*Nil*	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	*Nil*	Normal	Normal	Normal	Normal	—
M	72	—	1·5	114	—	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	—
M	73	3	—	113	—	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	—
M	74	—	2·5	113	—	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	—
M	75	2	—	112	—	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	—
M	76	—	2	112	—	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	—
N	77	2·5	—	—	5	*Nil*	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Nodules	Normal	Normal	*Nil*	Normal	Tubercle	Normal	Normal	—
N	78	—	2	116	—	"	"	"	"	"	"	"	"	"	"	"	"	"	Normal	"	"	—
N	79	2·5	—	66	—	Tubercle	Tubercle	Tubercle	Tubercle	Tubercle	Tubercle	?	"	Tubercle	Tubercle	Tubercle	T. B. present	Tubercle	Tubercle	Tubercle	Tubercle	16
N	80	—	1·5	115	—	"	"	"	"	"	"	Normal	"	"	"	"	"	"	Museum specimen		"	17
N	81	2·5	—	114	—	*Nil*	"	Normal	"	Normal	Normal	"	"	"	"	"	*Nil*	Tubercle	Tubercle	Tubercle	Tubercle	18
N	82	—	2	65	—	Tubercle	"	Tubercle	"	Tubercle	"	"	"	"	"	"	T. B. present	"	"	"	"	19
O	83	2	—	105	—	*Nil*	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	*Nil*	Normal	Normal	Normal	Normal	—
O	84	—	2	110	—	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	—
O	85	2	—	104	—	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	—
O	86	—	2	134	—	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	—
O	87	3	—	133	—	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	—
O	88	—	1·5	102	—	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	—
P	89	2	—	108	—	*Nil*	Tubercle	Normal	Normal	Tubercle	Normal	Normal	Normal	?	Tubercle	?	T. B. present	Not examined	Tubercle	Tubercle	?	20
P	90	—	1	108	—	"	Normal	"	"	Normal	"	"	"	Normal	Normal	Normal	*Nil*	Normal	Normal	Normal	Normal	—
P	91	2	—	134	—	"	Tubercle	Tubercle	Tubercle	Tubercle	"	"	"	Tubercle	?	"	T. B. present	Tubercle	Tubercle	"	"	21
P	92	—	2	107	—	"	Normal	Normal	Normal	Normal	"	"	"	Normal	Normal	"	*Nil*	Normal	Normal	"	"	—
P	93	2	—	106	—	"	Tubercle	"	Tubercle	Tubercle	"	"	"	Tubercle	Tubercle	Tubercle	T. B. present	Tubercle	Tubercle	Tubercle	Inflammatory areas	22
P	94	—	1·5	106	—	"	Normal	"	Normal	Normal	"	"	"	Normal	Normal	Normal	*Nil*	Normal	Normal	Normal	Normal	—
Q	95	2	—	103	—	Tubercle	Tubercle	Tubercle	Tubercle	Tubercle	Tubercle	?	Normal	Tubercle	Tubercle	Tubercle	T. B. present	Not examined	Tubercle	Tubercle	Tubercle	23
Q	96	—	2	127	—	*Nil*	Normal	Normal	Normal	Normal	Normal	Normal	"	Normal	Normal	Normal	*Nil*	Normal	Normal	Normal	Normal	—
Q	97	2	—	102	—	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	—
Q	98	—	2	102	—	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	—
Q	99	2	—	101	—	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	—
Q	100	—	2	127	—	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	—

REMARKS.

Milk-supply N.—No. 79: Tubercle bacillus present in XII., XIV., and XV. No. 80: Museum specimen. Inoculated in left groin. ∴ for right read left and *vice versâ*. No. 82: Tubercle bacillus present in XII. and XIII.

Milk-supply P.—No. 89: Tubercle bacillus present in XII. No. 91: Tubercle bacillus present in milk which was inoculated, also in XIV. No. 93: Tubercle bacillus present in XII.

Milk-supply Q.—No. 95: Tubercle bacillus present in XII.

* Guinea-pigs held to be affected with tuberculosis; combined results of macroscopic and microscopic examinations.

of guinea-pigs which were found to be affected by tuberculosis.

[We have left this paper as it reached us, and it will be seen that it was written before the lamented deaths of Professor Kanthack and Lord Vernon. Professor Kanthack, realising that the "fuller report" alluded to would never be written, expressed a wish on Dec. 15th last that the results of the investigation up to date should be published in the joint names of Dr. Sladen and himself.—ED. L.]

NEUROLOGICAL FRAGMENTS.

BY J. HUGHLINGS JACKSON, M.D. ST. AND., F.R.S.,
CONSULTING PHYSICIAN TO THE LONDON HOSPITAL AND PHYSICIAN TO THE HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

(Continued from THE LANCET *of Jan. 2nd, 1897.)*

No. XVIII.

ON ASPHYXIA IN SLIGHT EPILEPTIC PAROXYSMS.—ON THE SYMPTOMATOLOGY OF SLIGHT EPILEPTIC FITS SUPPOSED TO DEPEND ON DISCHARGE-LESIONS OF THE UNCINATE GYRUS.

IN severe fits of epilepsy there is arrest of respiration from spasmodic fixation of the chest and perhaps there is spasm of the diaphragm also. In some slight epileptic attacks, *les petits maux*, the patient "turns blue" or "purple"; he may become livid, a "dark pale," to use the expression of the friend of a patient of mine. I have until recently thought that asphyxia in slight fits is owing to spasmodic fixation of the chest and have indeed supposed that some slight fits with asphyxia and without true convulsion of the arms were respiratory (bulbar) fits owing to discharges beginning in the respiratory centre. Certain researches by Mr. W. G. Spencer ("The Effect Produced *upon Respiration* by Faradic Excitation of the Cerebrum in the Monkey, Dog, Cat, and Rabbit"),[1] make me think *that another* explanation of asphyxia in slight epileptic fits or at least in a certain group of them, *is more likely. In* this note I only refer to that part of Mr. W. G. Spencer's researches which deals with arrest *of respiration.* On p. 629 *op. cit.* Mr. W. G. Spencer writes: "It has, therefore, been shown that the respiration can be *slowed and arrested* by excitation of a certain spot and a limited area around it. This spot is situated in all the animals *examined to the outer* side of the olfactory tract just in front of the junction of the tract with the uncinate. And this *arrest can be constantly* obtained and the experiment repeated again and again under certain conditions." On p. 628 Mr. W. G. Spencer *writes:* "The arrest in the monkey was nearly always in expiration, but only rarely was any active *expiration seen.*"[2]

I presume that the arrest is by great *cortical inhibition of* the respiratory (medulla) centre; a superior centre of the lowest level.[3]

I have several times[4] drawn attention to what I will now call a group of cases of epilepsy—*cases in which there is at* the onset of the paroxysms a crude sensation of smell or of taste or in which there are movements of chewing, smacking of the *lips*, and *sometimes spitting*, &c. These movements are the indirect, the "reflex," consequences of an epileptic discharge *of gustatory elements* of the cortex. In some cases of this group there is a warning by what is known as the epigastric *sensation*; *this sometimes* occurs along with one of the other crude sensations or with the chewing, &c., movements. The representation of smell and taste is, according to Ferrier, in the uncinate gyrus; excitation of this gyrus in the animals he experimented on produces, he found, "reflex" movements analogous to those just mentioned as occurring at the onset of certain slight epileptic fits in the human subject.[5] Different varieties of this group of cases depend, I suppose, on discharge lesions of different parts of the uncinate gyrus or of parts of convolutions in its close neighbourhood. As will have been inferred it is supposed that in this cortical region are the physical bases of some systemic sensations—to speak very roughly of those systemic sensations especially appertaining to the digestive system.

There is very often the Dreamy State in cases of this group of epileptic fits—the Uncinate Group.

I have had very few opportunities of watching patients in slight paroxysms of epilepsy with regard to degrees of asphyxia. In slight attacks of the group of cases just spoken of there is sometimes "turning blue," as the friends may say. Here comes, I submit, the importance of that part of Mr. W. G. Spencer's research which I have quoted; his "arrest centre" is very near to the uncinate gyrus. So that if an epileptic discharge does begin in some part of that gyrus it may spread to and may soon reach the "arrest centre": I say "may spread to and may soon reach" because no doubt the degree of spreading and range attained by an epileptic discharge depends on the initial discharge—on the degree of fulmination of the discharge-lesion (quantity of energy liberated and rate of liberation). I suggest particular inquiry and careful observation regarding degrees of asphyxia in slight paroxysms of the group of cases of epilepsy I am dealing with; the colour of the face (especially of the lips), the state of the chest walls and abdomen, and the attitude of these parts, inspiratory or expiratory. Besides this, I ask a question which is, I think, of great importance: Can a considerable degree of asphyxia occur in a slight fit without spasm, real convulsion, I mean tonic or clonic, of the arms? (I am not meaning that slight and yet true spasm of the hand (fingers) may not be present when the rest of the arm is not convulsed.) It is to be urged that on arrested respiration in slight fits there may be writhing movements of the arms, and no convulsion properly so-called of them. The writhing movements are presumably an indirect consequence of (the physical condition for) suffocation.

The following case will serve to illustrate what I have just said. A man, F. F——, aged fifty-two years, had a "funny feeling" which was not true vertigo; of this feeling he said, "I can't tell what it is." I could not be sure it was the dreamy state; very likely it was not, at least not a definite one as in this patient's case I asked leading questions on the matter. His wife knew when his attacks were coming on by a noise he made; she smacked her lips as if tasting to let me know what the noise was. When this noise stopped the patient (his lips) "turned blue"; his eyes were half closed. His arms dropped *soft*, not *stiff*. When he came round he "*drew a long breath*" and began to breathe easily and then seemed "dazed and muddled" and "asked unlikely questions." In this case there was some kind of abnormal affection of taste *after* the attack; he told me that he had after the attacks a peculiar taste in his mouth, "everything nasty," everything tasted alike; he had complained of this to his wife.

Smacking movements of the lips, nasty taste, dreamy state, if there was one, and "turning blue" may seem at first glance to have no sort of relation to one another. I submit that they have an association in the sense that there is one discharge-lesion of some cells of the uncinate gyrus and that there is spreading of the discharge from this focus. I believe, too, that the dreamy state (which as I have said often occurs in this group of fits although perhaps not in the case of F. F—— just narrated) is a consequence, a very indirect consequence, of a discharge-lesion so seated. On looking up my notes of this case I was much interested in the *observation* of the patient's wife that in the paroxysms his arms were soft, not stiff; it seems that there was asphyxia without any convulsion of these limbs. I will, however, refer to the case of a boy, ten years of age, recorded by Herpin in his valuable work on Epilepsy published in 1852 (p. 275), with regard to the arms in epileptic asphyxia and to several other matters of importance in the analysis of the symptomatology of epileptic fits.

Herpin says that the boy's parents included under the head of vertigo two varieties (I should use the term degrees) of incomplete fits (slight fits). There is no mention of a dreamy state; it is the kind of case in which I should expect there to be one. The boy had also severe attacks[6] which were always preceded by the incomplete attacks.

"At the beginning of the more severe seizures [the severer of the two degrees of incomplete attacks is meant], which happens like the other kind of fits, without any apparent cause, the child experiences a sensation which begins in the abdomen and the stomach and rises up to the neck; he then says, 'I am ill! I am ill!' *Then he starts chewing motions (champing)*[7] *and his mouth fills with water*, in spite of noisy efforts at deglutition. At the same time the contractured hands and forearms are flexed and subject to irregular movements (not tremors or jerks)[8] which tend to carry the open or closed hands towards the head; the face was immobile and distorted, at first pale, then livid or purple (*violette*); the eyes are haggard. Whether seated or standing at the onset of the attack the child does not fall, but is willing to be supported. In the later stage of his malady, happening to have a seizure in the street, he continued walking, at first alone but like a drunken man, afterwards with help. That the child did not fall is not the only sign from which one could conclude that he does not entirely lose consciousness: as saliva runs from his mouth towards the end of the fit, *he seizes a handkerchief which was offered him; and he tries to wipe his lips*, but his arms seemed unable to be under the control of his will.[9] Sometimes during the seizures he repels any service offered him; indeed, one day he even answered a question by a few words. After the convulsive state, which lasts from one to three minutes, he remains quite quiet for a moment and then is well again. Sometimes in the course of the attack there will be efforts at vomiting. To sum up, this variety consists of exclusively tonic convulsions restricted to the upper portion of the body with more or less complete preservation of the senses and intelligence.

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[1] Transactions of the Royal Society, vol. clxxxv., 1894, B., pp. 609 to 657.

[2] By the latter part of the quotation is meant a degree of expiration in excess of the *normal*.

[3] THE LANCET, Feb. 23rd, 1895: On Superior and Subordinate Centres of the Lowest Level.

[4] Medical Times and Gazette, vol. i., 1879; Brain, July, 1880; July, 1888; and (with Dr. Beevor) Brain, October, 1889.

[5] I have had under my care a patient who had slight epileptic fits (he had severe attacks too) which began by his making such mouth movements as I have mentioned in the text; no crude sensation of taste was remembered by the patient on coming round from his seizures: there was the dreamy state. In this case Dr. Colman found a very small focus of softening in the left uncinate gyrus.

[6] "Attaques [illegible] dites."

"In the less severe variety [of the incomplete attacks] which very nearly resembles simple vertigo, there are general immobility, *champing*,[10] sounds of deglutition, sometimes there is slight lividity of the face, but no convulsion of the limbs."

My reason for citing this case is partly on account of the champing movements (with an epigastric sensation) and also because of Herpin's statement about the arms when the patient was purple—the "irregular" movements, his seizing the handkerchief and his inability to use it. I suggest that in this case the champing movements signified a discharge lesion of gustatory cells of the uncinate gyrus and that the discharge besides spreading to motor centres for those movements spread also to the arrest centre and thus caused, by inhibiting the respiratory (medulla) centre, the patient's face to become livid and purple. I submit that the irregular movements of the arms were, like those of champing, movements proper, vague movements, especially of the accessory muscles of respiration, consequent on a state of suffocation. However, I must not forget that Herpin spoke of them as being part of a tonic convulsion.

In future notes I shall speak of symptoms of the group mentioned in this note with comments and may reconsider the state of the arms in the asphyxia of slight epileptic fits.

SURGERY IN THE GRÆCO-TURKISH WAR.

BY FRANCIS C. ABBOTT, B.Sc., M.S. LOND., F.R.C.S. ENG.,

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THE first part of this paper was in the hands of the Editors of THE LANCET before Christmas, 1897. Prolonged absence from work has delayed its publication; the results in more recent campaigns are therefore not alluded to.

Military Surgery at the Present Time.

The enormous surgical experience gained in some previous wars, with their vast numbers of men engaged and their long duration, may well make one pause before publishing a comparatively limited series of cases like my own. But war and surgery are changing sciences and in both there have been such great alterations since the last European war as to vitally alter the character of many of the problems with which the military surgeon has to deal. On the one hand the magazine rifle, throwing sheathed bullets of small calibre and high velocity for enormous ranges, has introduced a factor about which little is yet known, but which will certainly change the character of many of the wounds received in battle. It is only necessary to read the interesting chapters in which the most modern English text-book on military surgery[1] discusses the effects produced by the small bore bullet at different ranges and velocities to realise that as yet there is much to be learnt about them.

The chief experimentalists have differed widely in their results, mainly, I think, for two reasons. One is that the effects produced are not the same on the coagulated tissues of a cadaver as on the living, and the other and more important is that in so many experiments the charge has been diminished in place of increasing the range. This certainly obtains the same reduction of energy in the bullet but not the same effect, for some reason, on the tissues. In war where otherwise the experiments would be so perfect the results are vitiated, as a rule, by want of knowledge of the distance from which any particular bullet has been fired and by the fact that in many cases where the tissue damage is greatest the doubt occurs as to whether the bullet has not already struck something and so been altered in its shape before entering the body. In our cases where the bullet had completely traversed the body there was sometimes an additional doubt as to the calibre of the bullet. Some of the Turks were armed with the Mauser and the remainder with the Martini-Henry rifle. Wherever possible this point is noted but in many cases it had to remain uncertain.

On the other or surgical side there has been an equally great improvement in our antiseptic methods, especially perhaps in the way of simplicity and ease of attainment, making their successful application to military surgery not only possible but comparatively certain. In this connexion it was against us that many of the cases had not received any first aid. Some of the wounds were covered with an antiseptic pad, others had been bound up by the men themselves, but many were quite uncovered. On the other hand they had not been tampered with in unfavourable surroundings and they were not brought down in soiled ambulance waggons but all on horse or foot. The atmosphere was pure and the last part of the journey was performed in steamers not previously used for this purpose and which, though dirty, must have been fairly free from pathogenic organisms. The discovery of the Roentgen rays and their use for the detection of hidden bullets has also put a new weapon into the hands of the military surgeon.

The Conditions and Equipment of the Two Temporary Hospitals Employed

My experience was gained in two temporary hospitals in which 153 cases in all were treated to a termination, and of these careful notes were taken. For the treatment adopted I was as far as possible responsible, though owing to the distance which separated the hospitals and heavy administrative duties much of the actual management of cases fell to my colleagues, Dr. H. J. Davis, Mr. R. Fox Symons, Mr. H. Moffat, and Mr. S. Osborn, to whose careful work I am much indebted. To Mr. H. Moffat at the Piræus fell practically the sole charge and initiative in many bad cases and excellent results he obtained. We treated at Chalcis a large number of other bullet-wound cases temporarily, but for want of room passed them on to Athens. These and many others which I saw in the various temporary and permanent hospitals by the courtesy of the Greek and foreign surgeons, no doubt helped to form my opinions.

As military surgery is mainly ordinary surgery under difficulties a word must be said as to surroundings and equipment. Our hospitals were placed in a villa at Phalerum (kindly lent us by Her Majesty the Queen of Greece) and a large one-storeyed pavilion building at Chalcis. Both had been crowded with refugees and were very dirty when we took them over. Disinfection was carried out by burning sulphur, by double lime-washing the walls, and by the employment of much carbolic acid and soap-and-water. We apparently got rid of the microbes but were not so successful with macroscopic foes. The house at Phalerum was connected with the drainage system—a doubtful advantage as we did not know in what way. Chalcis, on the other island, has no sanitary arrangements, and as it had 15,000 refugees quartered on an original 9000 inhabitants disease was very rife. The kitchen and offices were over a large cesspool, luckily connected only with our own building. It was too dangerous to make any great change, so all we could do was to partially close it and have frequent supplies of antiseptics thrown into the remainder which we were obliged to continue to use. Typhoid fever and small-pox were both very prevalent but we had no cases among the staff or patients except those which came down from the front with the former disease. For filtering water we used throughout Berkefeld filters, relying on their efficacy for both surgical and drinking purposes. The form adopted was a hand-pump supported on a stem ending in a stirrup for the foot. The machine could be taken to pieces, was very portable, and it was possible to pump half a gallon of filtered water a minute. I had no means of testing this water bacteriologically, but no case of the fearfully-prevalent typhoid fever arose in either place. I also used this water as sterile in surgery, because from the smallness of the open charcoal stoves it was impossible to boil sufficient, and as far as I know I used it without any bad result.

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[7] "Il se met à mâchiller."

[8] "Sans tremblements ni secousses."

[9] "Mais ses bras ne semblaient pas obéir régulièrement à sa volonté."

[10] "Mâchillement" (this word is the only one italicised in the original except that of the patient's exclamation "J'ai mal"; the other italics are mine)

[1] Wounds in War, by Professor Stevenson.

The hospital near Athens was furnished with beds and other fittings locally bought. The arrangements at Chalcis were more primitive. The beds were planks on trestles and the mattresses, for want of hay or straw, were stuffed with cotton-waste. The rooms, however, were large and airy, the largest ward containing 22, and the smallest 11, beds. Owing to overweight we left behind in England to follow by steamer all such nursing adjuncts as urinals, bed-pans, porringers, &c. I should advise anyone about to undertake similar work to sacrifice almost anything rather than these, as other things can be more easily extemporised, while nothing is more necessary in the treatment of bad cases. The patients in both hospitals were tended by English nurses assisted by Greek orderlies. The *Daily Chronicle* had generously given me a free hand as to equipment and we had a full supply of modern instruments and dressings.

On instruments I have little to say. Nearly all operations are of a cleansing and trimming character and require ordinary tools. We much preferred the new "Egyptian Army Pattern" bullet-forceps to any others. Those with sharp-toothed ends we found both difficult and dangerous to work at the end of a long sinus which with the new bullets is even narrower than formerly. I much prefer a long periosteal elevator with slightly curved end to any forceps whenever possible. All difficult bullets should be cut down on by a fresh incision and the track ignored. There is no hurry about removal and if the sinus is healed asepsis is all the more certain. We had no opportunity of using Murphy's button or other rapid means of intestinal suture, as the two cases of perforation of the gut were neither suitable. All instruments were sterilized by boiling before and after use. The chief dressings were cyanide gauze and Robinson's tissue and the antiseptic perchloride of mercury in tabloids or soloid cartridges for making larger quantities of solution. We of course used a good deal of carbolic acid, but found its bulk, the heat needed, and the time spent in preparing a solution distinct disadvantages. Creolin proved an excellent lotion for cleansing long suppurating bullet sinuses. We did not chance to need saline infusion, but the simple apparatus required should always be at hand, as many of the most favourable cases for its use must occur after hæmorrhage in bullet wounds. We had with us anti-tetanic serum, but no case of tetanus arose. Several cases of the disease occurred during the war but it was not common.

THE ROENTGEN RAYS (WITH MR. R. FOX SYMONS, BY WHOM MOST OF THE SKIAGRAMS WERE TAKEN).

The great field of future usefulness for the x rays in war is obvious; their limitations can only be told by experience. We were fortunate in having with us a powerful coil and all the other essentials for x ray work. This was the only apparatus of the kind in Greece and we therefore received cases from other surgeons to supplement our own and were in the position to gain a larger experience of the use of the rays in bullet wound cases than had yet fallen to other surgeons. The equipment was kindly chosen by Dr Barry Blacker and furnished by Messrs. Miller and Woods. The only difficulty we had with the battery was the melting of the pitch of the partitions between the cells owing to the heat. The coil gave a nominal 10 in. spark. We only used three Crookes's tubes throughout, but, of course, in such circumstances as ours it is very advisable to have a good reserve. We had a large screen of platino cyanide of barium which proved the means of saving much time and is probably even more necessary in war than in work elsewhere. The troublesome question of depth is so easily approximately solved by its aid. The only disadvantage is that we have not permanent optical records of all the results.

The chief difficulties in the use of the rays in war as they presented themselves to us were—the great weight of the coil and secondary battery, the absolute necessity of having a source of electric supply near at hand to recharge the batteries, the fragility of Crookes's tubes and glass negatives, the danger of carrying strong sulphuric acid, the difficulty of sparing the space and of making an efficient dark room with good water-supply, and the time taken up by the work. Besides these there is the general delicacy and liability to derangement of the whole apparatus, as every x-ray photographer will understand, which makes the manipulations a great extra anxiety when one is already working at high pressure and short-handed in disadvantageous surroundings. A more amusing source of difficulty was the superstition of the natives. They undoubtedly looked on the whole affair as the work of 'ο Διαβολος. It made it difficult to take a skiagram when the subject was constantly crossing himself unless strictly watched. Some of these difficulties quoted above absolutely preclude the use of such an apparatus at the actual front. It would of course be possible to work with a less powerful coil and battery than we used, but such small machines will only give results with easy cases, as hands or forearms, and are of no use for working with the screen. But if one is ever to use the rays in the first rush and press of wounded after an engagement it is clear that it can only be by means of the screen. There is no time for anything else. And as to use the screen efficiently demands a big spark and a heavy coil the thing becomes an impossibility at the actual front. Fortunately it is not really necessary there and could very possibly do harm by stimulating the young surgeon to premature operations in bad surroundings.

In the great majority of the bullet wound cases which come in the bullet has already passed out. In a good proportion of the remainder it is easily felt under the skin and extracted. These alone should be dealt with at once. On the other hand, the skiagram should, if possible, be taken before the necessary cleaning and splinter removing operations performed at the advanced base or line of communication hospital. The bullet will, of course, often be found in these even without the help of the rays. Putting aside these cases it is quite a small minority in which the location of the bullet remains hidden. These are just the cases which can wait and are at first merely dressed, or which (as in lung cases) only develop serious signs later, and are the ones which in a week or two will be arriving at the base. Besides these there are those cases in which no bullet is thought to be present but which do not go on well. These also can be skiagraphed as they arrive at the base and the source of irritation, be it bullet or sequestrum, often discovered. Although Domoko was fought on May 17th we did not often feel the want of the rays before we had our apparatus fixed which was not till June.

We believe, then, that the x rays in future wars will be of the greatest use but *not* at the actual front. In a European war they will of course be readily obtainable at the base, but so much of the surgery must be done before the cases get down so far that they will be wanted further forward than this. In Europe it will nearly always be possible to find some town near the fighting line with electric installations and this will be the place to choose. In our English service this would probably be the site of the most advanced of the line of communication hospitals. In wild countries the difficulty of obtaining electricity will always be enormous and must be the chief determining factor. In such difficulties the plan used is worth remembering. Every modern man-of-war can furnish an abundant supply which will, of course, be given for this purpose with pleasure.[2]

In Greece the apparatus was fixed in a room at the hospital at Phalerum. This was practically an advanced base hospital. Chalcis was ten hours nearer the front but there was no possible source of electricity. Phalerum also was near enough to Athens for the Greek surgeons to bring us their cases. We obtained our electric supply from H.M.S. *Rodney* to whose officers we were much indebted for their willing help. We used no glass negatives, thus saving weight and having less chance of breakage. All the skiagrams were taken direct on to Eastman's positive paper and we would recommend this method to others in similar circumstances. In the only cupboard we could spare for a dark room we lacked that great essential a good water-supply, hence from insufficient washing some of the pictures have since considerably "fogged."

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[2] Since the above was written Major Beevor, R.A.M.C., has successfully worked with a primary battery at the front in the Afridi campaign.

In addition to looking at all the cases in which we had reason to believe bullets or fragments of them were still in the tissues we took skiagrams of bullet fractures. These show plainly in what very various directions the lines of fracture may run from the point of impact. They vary from almost longitudinal to quite transverse. In some instances multiple fractures start from the bullet hole and in others the fracture commencing as one breaks up into several branches. One os calcis shows only a clean hole and another shows a true stellate fracture with the hole as centre. Fragments of bone in other cases have been driven into the surrounding tissues. Probably the unknown factor of range (and therefore velocity) would explain these differences. The absence of callus puzzled us at first, but callus of recent formation is not opaque to the rays, and all our skiagrams were taken at the latest within six weeks of the injury. The rays in addition to showing bullets brought out other sources of irritation—e.g., pieces of dirt and sequestra—and thus proved useful guides to a secondary operation.

The skiagrams should be taken in two different planes at right angles to each other as the body may be a mere scale or splashing of lead. This will be undiscovered in one plane and yet appear quite large in another. One English volunteer with a compound fracture of the tibia showed no bullet in Greece or on the first attempt in England, yet a large scale of lead was subsequently seen and removed. It is also important to remember that the skiagram will very likely show the bullet decidedly magnified if it is deeply situated in the tissues and some distance from the plate. This is seen in Fig. 6, where we took the bullet to be a Martini but it proved to be a small bore bullet. Since the apparent size of the bullet cannot be smaller than the real, if a bullet shows smaller than a certain calibre it is safe to say that it is not a bullet of that calibre; it is only in the opposite direction that mistakes occur. Conversely, if in any case we know what bullet has entered, its size on the skiagram will give us a rough clue to its depth. The track of the lead bullet in several skiagrams is marked by a number of small opaque points on the plate. These we do not remember to have seen previously described and think them to be small pieces of lead rubbed off the bullet in its course. There is no doubt that the belief that he has a bullet inside him even when false will worry a patient and keep him back. By taking a skiagram, having previously laid a wire on the skin to show on the plate, one can convince these sceptics that no bullet is there with immediate alleviation of symptoms.

The illustrations are given in order to show that even inexperienced hands working under considerable difficulties can get fair results rather than on account of any intrinsic merit, and also as a record of the first skiagrams taken in war time. All the original skiagrams were shown at the annual meeting of the Roentgen Society in the autumn of 1897. The reproductions in Figs. 1 to 8 are very accurate except that the bullets in Fig. 1 and Fig. 7 stand out too white and prominent. Even in the originals, however, they show with almost startling clearness and with their sharp definition of outline are much more conspicuous than any of the bones around them. The other fault is that the reproductions do not show certain details, especially the white marks in the course of the bullets and details at the line of fracture. The exposures were long as compared with our present ideas, but of course to show a bullet in bone the exposure should be longer than to show the bone alone as the bone must be penetrated by the rays. We no doubt made many mistakes of technique, at the details of which neither of us profess to be proficient. Besides those figured the most interesting cases were as follows: A wound of the shoulder in which the bullet could not be found. The skiagram showed a bullet just above the spine of the scapula near its vertebral border. This was subsequently removed. A bullet wound of the back of the thigh passing downwards. The patient had so much pain below the head of the fibula that the surgeon in charge explored the outer side of the leg here. Nothing was found and the case was brought to us. The skiagram showed a shrapnel ball in the soft parts on the outer side of the upper part of the popliteal space. This was cut down upon and found to be lying in contact with the external popliteal nerve which was pressed on but uninjured. In a case in which we had every reason to believe there was a bullet at the back of the orbit we failed altogether to see it either in a skiagram or on the screen. Many of the fractures skiagraphed showed interesting points, the main features of which have been described above.

THE SKIAGRAMS.

Fig. 1 is a skiagram of a bullet wound of the right wrist (Martini). There was a large wound situated above the base of the styloid process of the radius anteriorly. There was great swelling of the wrist and hand, especially on the radial side, and the bullet could not be certainly felt; movements at the wrist were very limited and there was no grating in the joint. The skiagram shows a fracture of the lower end of the radius with the comparatively transparent track or groove through this bone, which is widened, the bullet lying over the carpus and between the bases of the second and third metacarpals, which are uninjured. The original shows the bullet track marked by numerous white dots (? scrapings of lead). (Tube, 8 in.; exposure, 4 minutes.)

Fig. 2 shows the same hand as in Fig. 1 but taken at right angles. The skiagram shows the great thickening of the wrist and hand and that *the bullet is lying near the dorsal surface* with its distal end nearer the skin, thus keeping the direction in which it had entered the wrist. Slight flattening is seen on that side of the head of the bullet which first struck the bone. The case had been previously treated in a Greek hospital. The bullet was removed.

Fig. 3 represents a penetrating bullet wound of the hand (Martini). There were large ragged wounds of entry and exit with much damage to the soft parts. The skiagram, taken six weeks after the injury, shows oblique fractures of the second and third metacarpals. The callus scarcely shows. In the original the bullet track is plainly marked by (?) lead splashings. Taken through gauze and bandages. (Tube, 10 in.; exposure, 7 min. Case 40.)

Fig. 4 represents a penetrating bullet wound of the forearm. The bullet had passed from the outer side of the back of the forearm to the inner side of the front of the wrist. The holes of entry and exit were small. The skiagram shows the actual point of passage of the bullet between the bones with loss of substance in each filled with new bone. Oblique fractures of both bones pass upwards from here, the much more oblique one of the radius falling into a more nearly transverse one higher up the bone, thus separating a wedge-shaped piece on the ulnar side. The lower end of the ulna is slightly tilted. Very little callus. (Exposure, 6 min. Case 54.)

Fig. 5 shows a bullet wound of the forearm. The wound had been opened up by a Greek surgeon who had resected a broken piece of radius with its periosteum. The skiagram shows a gap in the radius exactly corresponding to this. The body seen among the muscles is therefore part of a bullet altered in shape. There was a hole of exit, so part of the bullet had escaped. The end of the lower fragment shows some bone thrown out by the damaged periosteum.

Fig. 6 represents a compound fracture of the humerus. The wound of entrance (small) was internal to the anterior axillary fold below the second rib. There was another wound at the back of the deltoid near its insertion and thought to be the wound of exit. The humerus was extensively comminuted in its second quarter. There was slight suppuration from the posterior wound and much callus. The humerus became enormously thickened, this thickening extending a long way down the bone. A small piece of bullet was removed from the exit wound. A body—callus or bullet—was felt in front of the fracture. The skiagram shows the bullet with flattened end on the inner side of the humerus at the upper edge of the callus. Its course from the wound of entrance can be made out in the original by lead marks. The opaque white patch behind the humerus is due to discharge from the posterior wound damaging the paper and shows the position of the sinus. The great sheath and second outline around the humerus was thought to be false and due to movement. It, however, appeared exactly the same at a second attempt and must be the callus, with which it corresponds and which was certainly remarkable in extent. The bullet was removed and proved to be a Mauser. (Case 63.)

Fig 7 represents a bullet wound of the left lung The wound of entrance was in front of the left shoulder joint The patient developed pneumonia then pleurisy with effusion The serum became offensive, a rib was resected and the empyema was drained, but by the finger no bullet could be felt The skiagram was taken nine weeks after receipt of the injury It shows a Martini bullet lying pointing downwards and inwards over the eighth rib on a level with the lower angle of the scapula and extending inwards to the tips of the transverse processes The white opacity of the bullet is exaggerated in the reproduction, but it stands out with clear definition in the original The patient recovered The bullet was not removed The body was much emaciated (Exposure, 25 minutes Case 21)

Fig 8 shows a bullet in the femur (Martini) The wound of entrance was in the back of the thigh and quickly healed The symptoms and the pain were slight The case had been treated by a Greek surgeon The bullet lies antero-posteriorly in the femur, apex forward It is at the level of the upper border of the patella and therefore much below the line of reflexion of the upper pouch The outline of the anterior surface of the femur is quite clean cut and there appears to have been no splintering here There was considerable damage to the posterior surface which was better seen in the original Looking with the screen in plane at right angles to this the bullet was seen to lie in the femur somewhat to the inner side (Exposure 35 min)

(To be continued)

"LETTER" WITHOUT "WORD" BLINDNESS.[1]

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IN three preceding papers[2] on word blindness and its varieties certain views have been expressed which, in my opinion, afford the only reasonable explanation of all the varieties of this condition which are met with Since the last paper my attention has been drawn to a rare form where the patient is able to read *words* but not the individual letters of which the words are composed—i e , "letter" without "word" blindness Recorded cases of this variety are excessively rare and my attention was specially drawn to it by the occurrence of two cases in the *Western Infirmary* of Glasgow Since the occurrence of such cases forms powerful clinical evidence *in support* of the views maintained in the *preceding papers* I have *thought* that a critical examination of the visual phenomena manifested in this little known *variety—' letter ' without* "word" blindness—would prove an interesting appendix *to the series* of papers already published I have to thank Professor Sir William T Gairdner and Dr James Finlayson for their kind permission to quote their as yet unpublished cases and also to express *my great obligations* to their assistants, Dr James Carslaw and Dr John Love, who supplied me with every *facility for studying them* These cases were somewhat complex and the following must *not* be regarded as in any sense a complete report of them but simply as very brief *records* of the chief visual phenomena, that being the only aspect of these cases which concerns us in the present paper

CASE 1 (Abbreviated from the notes *supplied* by Dr John Love)—A young man, aged twenty four years, was admitted to Dr Finlayson s wards in the *Western Infirmary* on March 19th, 1898 About four months previously his illness had begun *somewhat suddenly* with severe headache vomiting, and feverishness with stiffness of the neck and back and *some* deafness Shortly thereafter there developed paralysis of the right arm, leg, and the *right side of the face*, with aphasia and profound apathy from which, however, he could be roused The history and *development* of the *case* suggested that it was most probably a sporadic example of cerebro spinal meningitis though rash was absent Improvement was very gradual both as regards the general state and the paralysis and aphasia, When admitted into the Western Infirmary there were still present some paresis of the right side and a trace of loss of power about the right angle of the mouth He had still aphasia which was motor or articulative in part and partly amnesic There was a gradual improvement in his speech during his residence in hospital and before dismissal he could converse with the other patients and nurses There was no word deafness, all requests being quite promptly obeyed His visual symptoms were somewhat remarkable There was no object blindness as he could indicate by pantomime the use of articles presented to him and he could recognise by sight pictures, colours, and geometrical forms When tested with words and letters it was evident that a peculiar condition was present On testing him with letters it was found that he could neither read nor write a single letter of the alphabet except "T," which he generally recognised and always named "Tom" which was his own name Nor could he point out any named letter except "T " The inability to recognise them was the same with all sizes and forms of letters both written and printed On testing him with words, however, in a large number of trials it was quite evident that he could read almost every word presented to him, even words of three or four syllables and very unfamiliar ones, while at the same time he was quite unable to name or point out a single letter of the word he had just read Such words as "stethoscope " "telescope," "electricity," "infirmary," &c , were read at once The word "*JOB*" was read at once, but when the *letters* were arranged "OBJ" and he was asked to read them he could not name a single one The contrast between the fluency with which he read the words and his inability to make anything out of the individual letters was very striking Substantives he could make out much better than verbs and could read them with the greatest fluency. Slight intentional mistakes in spelling and even reversing letters were not observed by the patient who read the words just as if no alteration had been made and did not seem conscious of anything peculiar about the word Numerals he recognised and named as far as "nine," but not beyond that, and only the Arabic numerals and not the *Roman* *There was no amusia* ; the patient could name and intone correctly the signs of the new notation but could not name them as letters of the alphabet During his residence in hospital the patient's power of reading words improved so that when he was shown to the Glasgow Medico Chirurgical Society on May 6th, 1898, he could interpret correctly any request in printing or writing and was able to read a letter written by himself He had been instructed to educate himself by learning the letters of the alphabet again This was done but only with partial success When he left the hospital about three months after admission he was able to recognise some letters but only occasionally and with many failures He could write a few letters to dictation but he made many mistakes On May 2nd he wrote the following letter which he was able to read afterwards —

> DEAR MOTHER,—Please send my clothes to-morrow and my boots as I am getting on the grounds I am keeping better hoping you are well

He addressed the letter quite correctly On attempting to write the alphabet from memory he wrote as follows — "a b, c, d e, i j h, m, n, s, u, w, v, y, z,' and the following letters being dictated he wrote as follows —

Dictated b	wrote l	Dictated c,	wrote c
j	l	,, f (failed)	
, p (failed)		, d,	wrote a
, r (failed)		,, n (failed)	

Numerous trials as to his power of writing and reading individual letters were *made but the above may be taken* as a fair sample of the measure of success attending these trials While he failed with many of the letters he wrote readily words beginning with the same letters In the above trial he failed to write "p," "r," or "n," but wrote quite readily "pot " "Robert," "nail,' and so on He left hospital at the end of May and has not been seen since the above examination was made, so *that nothing can be said* as to his further progress

As a parallel to this case I will briefly quote a case reported by Dr Byrom Bramwell,[3] selecting only those features of it which specially interest us in the present paper.

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[1] A paper read at a meeting of the Glasgow Medico-Chirurgical Society Nov 18th, 1898

[2] THE LANCET Dec. 21st, 1895 Nov 21st, 1896, and Feb 12th, 1898

[3] Edinburgh Medical Journal, 1897, p. 241

CASE 2.—A man, aged sixty years, was suddenly seized with loss of power of the right hand and arm with aphasia on Dec. 22nd, 1886. On March 9th, 1887, he came under observation with paralysis of the right hand and arm, considerable motor aphasia but no word-deafness. There was partial right homonymous hemianopsia. "The patient," says Dr. Bramwell, "is unable to recognise a single letter of the alphabet; he can neither spontaneously name the letter when it is shown to him nor can he when the names of the different letters are repeated aloud to him indicate when the particular letter which he is asked to recognise is named. He is unable to recognise figures either spontaneously or when they are named to him. Soon after the patient first came under my observation his wife who always accompanied him when he came to see me stated that he was able to read and make out some things which interested him in the newspapers. I paid very little attention to this statement, for it is well known that aphasic patients who are utterly unable to read a single word not unfrequently occupy themselves with a book or a paper and appear to their friends to be intelligently interested. Knowing that this patient was unable to read a single letter of the alphabet I paid no attention to this statement. When, however, his wife stated on a subsequent occasion that he had when walking in the cemetery read to her the names (with which, be it observed, he had not been previously acquainted) on some of the tombstones correctly and also that he had on another occasion turned up and pointed out in a guide-book the name of a landlord about whose property they were talking my attention was aroused and I found on investigation that the patient could read many words the individual letters of which he was totally ignorant of even when they were named to him. Thus on June 1st he read correctly the words which I had written to him on a piece of paper, but he was totally ignorant of the individual letters composing the words which he was able to read and did not know them when they were named."

CASE 3.—A case of somewhat similar character to the two preceding ones but in which the letter-blindness was not so complete has been recorded by Broca. Not having been able to see the original report of this case I quote it from Brissaud's article on Aphasia.[4] "A patient may suffer from letter-blindness and not from word-blindness proper or he may be blind to words and not to letters. While this is true letter-blindness is, as a rule, accompanied by word-blindness. That letter-blindness may exist without word-blindness is illustrated by a case reported by Broca. This patient was attacked by partial letter-blindness—that is to say, he had lost the visual memories of some letters. He could read words, however, in which were letters he did not know and one could change the place of letters in a word or even suppress some without his perceiving it."

CASE 4. (Abbreviated from notes supplied by Dr. James Carslaw.)—On Jan. 18th, 1898, a young married woman, aged thirty years, had a sudden attack of right hemiplegia with aphasia. She was admitted to Professor Sir W. T. Gairdner's wards in the Western Infirmary on Feb. 1st. She was found to be seven months pregnant; she had a previous history of rheumatism and the physical signs of mitral obstruction. She had right hemiplegia, the leg, arm, and face being involved. There was complete motor aphasia which remained persistent during her whole stay in hospital, the patient only being able to say two or three words on dismissal. There was no word-deafness. There was complete word- and letter-blindness on admission, the patient being unable to recognise any word, letter, or figure, printed or written. From this word-blindness there was a gradual recovery and when tested on June 8th, a month before her dismissal, she recognised all the words submitted to her and all the letters of the alphabet and figures in any combination. From the period of her admission the power of recognising words, letters, and figures was very carefully tested from time to time. These successive examinations elicited the remarkable fact that there was not a simultaneous improvement in her power of recognising the various forms of printed and written characters but that she first acquired the power of recognising numerals, then words, and last of all the individual letters of the alphabet. This progress will be most vividly seen by briefly quoting extracts from the ward journals bearing on this point. "Feb. 1st: The patient was unable to recognise any printed or written words, letters, or figures." "Feb. 22nd: If the page of a book is read aloud to the patient she can follow with her finger and point to the last word when a stop is made. She fails, however, to detect intentional mistakes made when reading. She can pick out with her finger a word here and there. She cannot point out a single letter of the alphabet except 'a' which she generally recognises correctly. She now recognises the Arabic numerals." "March 7th: The patient can now apparently understand printed matter though some words seem to puzzle her. She can follow with her finger as the page is read and detect intentional mistakes fairly well. She can now pick out a few letters of the alphabet but with very variable accuracy. Arabic numerals are recognised at once both individually and in combinations up to 100, but beyond this she has difficulty." The patient was now dismissed owing to her approaching confinement and was readmitted in May. The next examination was made therefore after an interval of about two months. "May 16th: The patient recognises words correctly and easily. She often indicates the recognition of the word by pointing to the corresponding object. She can with greater accuracy than before correct mistakes intentionally made in reading. She does not, however, readily detect slight mistakes in spelling—e.g., 'chiar' for chair—though she at once points to the object indicated. The individual letters composing the words are not, however, easily recognised; and when asked to point out individual letters of the alphabet she makes very many mistakes. She makes fewer mistakes with the small letters than with the capitals. She recognises Arabic numerals correctly and quickly, and to higher figures than formerly, but not Roman figures." "June 8th: The patient now recognises printed and written words rapidly and correctly. She quickly indicates with her finger any intentional mistakes made in reading aloud to her. She at once points to any word named. She can now pick out all the individual letters of the alphabet both small and capital. She recognises Arabic numerals in any combination and now also recognises Roman figures. In short she has now regained the power of recognition of all the printed and written characters with which she was previously familiar." The patient was dismissed on July 9th.

CASE 5.—As a parallel to this case where the patient, completely word- and letter-blind, recovered the power of reading words before letters I can quote briefly a case reported by Dr. MacVicar at a meeting of the Forfarshire Medical Association on Feb. 4th, 1898.[5] The patient was a young man, a painter by trade, who had received a fair education. His head was struck forcibly against the edge of a dresser on Dec. 27th, 1897, the injury being over the right parietal eminence. He suffered from symptoms of concussion and after recovery from this was unable to read. He gradually improved and was able to read aloud and wrote to dictation short words before he could recognise letters. He understood "written speech" subsequently to being able to read aloud. He could read simple sentences in fourteen days and numerals in nineteen days after the injury. The lesion was supposed to be of the nature of a hæmorrhage due to *contre-coup* over the left angular gyrus and possibly affecting the supra-marginal and posterior part of the third temporo-sphenoidal convolutions.

These five cases make it quite clear that there is a distinct variety of "letter-blindness" where the individual though able to read words cannot read the individual letters of which the words are composed. Recorded cases of this kind are rare and Dr. Bramwell in narrating his case remarks that he is not aware that such a condition has been previously described. The rarity of such cases, however, is, I think, chiefly owing to the circumstance that when they do occur they are not recognised. The fact of there being two in the Western Infirmary at the same time forms a strong presumption that such cases are by no means so rare as is commonly supposed. Such cases escape observation because the patients are not accurately tested as to their power of reading not only words but also individual letters. If the patient can read words the examiner may not know the necessity of also testing his power of reading letters and, conversely, if he finds the patient unable to read letters he will probably take it for granted that he is also unable to read words. If all patients were carefully tested as a matter of routine both with words and individual letters the number of recorded cases belonging to this category would be rapidly increased.

How are we to explain the at first sight startling fact that these patients whilst able to interpret words could no longer interpret the individual letters of which the words were composed? In my last paper[6] I discussed at length a class of cases exactly the converse of those at present under consideration—viz, cases in which the patients could read the individual letters but could not recognise by sight the words composed of aggregations of these letters Both classes of cases are explained in precisely the same way The fact of the existence of these two definite classes of cases, the one being the complement of the other, is the strongest possible proof of the correctness of the views set forth in detail in the last paper, where it was maintained that clinical evidence demonstrated the complete independence of the visual memories of letters and of words and that this complete functional independence could only be reasonably explained on the assumption that these distinct groups of visual memories are stored and preserved in different but probably contiguous areas of the cerebral cortex

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[4] Traité de Médecine, Paris, 1894, tome vi., p. 241.

[5] THE LANCET, Feb. 19th, 1898.

The ability to recognise by sight the individual letters of the alphabet is acquired by the individual in a comparatively short space of time, there being only 26 letters in our alphabet, or double that number taking small letters and capitals At first we read words by spelling them out letter by letter and by thus analysing the word into its constituents of letters and syllables Individuals who have not progressed beyond this stage—i e, who read all words by analysing them into their individual letters—would necessarily become blind to words if they became blind to letters But by years of persistent labour and practice we gradually acquire and store up the visual memories of words When this stage has been reached the individual reads not by analysing each word into its individual letters but by recognising each word as a separate picture The words cease to be for such an individual simply a congeries of letters, each word is regarded rather as an ideogram, picture, or symbol which suggests a particular idea That this is the true explanation is confirmed by the facts observed in three of the preceding cases

In Cases 1, 3, and 4 slight mistakes in spelling changing the place of some of the letters and even suppressing a letter, were not noticed by the patient In Case 1 even when one or two letters in a word were reversed—such as "LOVE instead of LOVE—the patient did not seem to notice anything amiss but read the word correctly without making any remark From these observations it is clear that these patients recognised the words by their general form alone A slight alteration in one or two letters was therefore not observable so long as the general form and appearance of the word were preserved In fact these individuals recognised a word just as they recognised a landscape or a familiar face, by their general outline and form, without resolving them into their constituent details It is therefore easily conceivable how such individuals who have thus acquired by long and constant education the power of reading words by sight not phonetically but ideographically can lose the visual memory of the individual letters and yet retain the visual memory of words or, to put it briefly, such individuals may be "letter blind" without being "word blind"

In my previous papers[7] it was pointed out that in the visual memory centres the visual images or memories are arranged in definite groups having a certain *independence* of each other The visual memories of objects of places, of forms, and of colours are deposited in different brain areas from the visual memories of words letters, and figures Hence we have word and letter blindness occurring without the loss of these other forms of visual memory Further, it was argued from the clinical evidence that the visual word centre (generally regarded as occupying the left angular and supra marginal gyri) is itself complex and that *within* it are stored different groups of visual symbols—numbers words, and letters—in quite distinct but probably adjacent cerebral areas In my first paper[8] the complete independence of the visual memory of numbers from that of words and letters was proved from the clinical evidence and the conclusion was drawn that these must be deposited in separate cerebral areas Bastian,[9] in his recent admirable work on aphasia has evidently adopted this view which was argued in detail in my first paper He adds an important piece of confirmatory evidence "Destruction of the visual word-centre," he says, "is the common cause of word blindness If there should be a separate seat for the registration of numerals it is suggested that its escape from damage would account in all probability for the preservation of the ability to read and the ability to write numerals That this is the true explanation seems all the more probable because on rare occasions it has been found that loss of ability to read and comprehend numerals exists in the absence of word blindness One such case has been recorded by Trousseau and another by de Capdeville in which there was a transitory defect of this kind Now precisely the same clinical evidence can be brought forward to show the complete independence of the visual memories of words and letters In the last paper[10] four cases of great purity were quoted and discussed in which the patients *could read fluently* individual letters but not words In the present paper 5 cases are adduced in which the patients could read words but not letters The clinical evidence therefore clearly indicates the complete independence of these two groups of visual memories and hence justifies the inference that these are deposited in distinct areas of the cerebral cortex This is precisely the chain of reasoning which led to the inference that the *numerals* were stored in a separate cerebral area, and if the reasoning is sound in the case of the numerals it is equally valid in the case of the words and letters Since the visual memories of letters and words are usually lost together it is highly probable that the areas in which they are stored are contiguous When there is only partial destruction of the centre and that part of the centre in which are stored the visual memories of letters remains intact then the patient can read individual letters but not words, on the other hand, when the letter area is destroyed and the part in which are deposited the word memories is still functionally active then the patient though he cannot recognise an individual letter can recognise words just as in the cases under consideration in the present paper When the destruction of the centre is partial and irregular, part of each area being destroyed, then the patient will be able to read some words and some letters, the extent of the ability to read being dependent upon the extent of cerebral cortex within the centre which is still functionally active The cerebral area destroyed may be very irregular and hence arise those very peculiar cases of which several examples are quoted in my last paper. In fact the varieties are endless but the view here expounded is the only one which renders all these varieties intelligible

Case 4 affords a very striking confirmation of this view that the visual memories of numerals, of letters, and of words are stored in perfectly distinct though adjacent cerebral areas. The lesion in this case was almost certainly an embolism, blocking up the left middle cerebral artery, cutting off the blood supply to the left motor area, to Broca's convolution, to the visual word centre in the left angular gyrus and hence the symptoms right hemiplegia, aphasia and word blindness At the outset this patient had lost the visual memories of all the symbols printed and written—numerals, words, and letters—with which she was previously familiar That this is the condition most commonly met with is easily understood when we consider that all these visual memories are deposited in areas which though distinct are certainly close together and probably contiguous It is only when a part of the area escapes that these cases are met with where the patient retains some special group of visual memories The vascular supply of the central cortex is liable to considerable variation As a rule the visual word centre is supplied by a branch of the middle cerebral artery and here evidently this branch supplied the centre in its whole extent Hence the complete blotting out of the visual memories of numbers words, and letters In a case previously reported by me[11] the patient lost only the word memories and retained those of figures and letters Here part of the word centre was probably supplied by a branch of the posterior cerebral and hence escaped destruction This variation of vascular supply no doubt explains many of the clinical varieties of this defect which are met with In the case under consideration the visual word centre gradually recovered its functional activity, probably by a gradual restoration of the blood supply through anastomosing channels In the gradual restoration to functional activity of the centre the outstanding feature is that the patient first gained the power of recognising Arabic numerals, then words, and, last of all, individual letters. I do not know of any more convincing proof which could be brought forward to demonstrate that these different groups of visual memories are deposited in distinct cerebral areas. If the centre was simply the general repository of these visual memories without any definite grouping or arrangement of them then there would have been a gradual simultaneous recovery of numbers, words, and letters, which was not the case. On the other hand, if these three distinct groups of visual memories are deposited in definite and distinct areas within this centre, then as the blood-supply is gradually restored, enabling the successive areas to resume their functional activity, it is to be expected that the patient would regain the different groups of visual memories in successive order, as actually took place in the case under consideration. It is to be observed that the order of recovery is not from the simple to the complex but that the power of recognising words was recovered before the power of recognising letters. This order of recovery was also observed in Case 5 already briefly quoted.

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[6] THE LANCET Feb 12th 1898.

[7] THE LANCET, Dec 21st, 1895 Nov 21st 1896 and Feb 12th, 1898.

[8] THE LANCET Dec 21st, 1895.

[9] Aphasia and other Speech Defects p 283 London 1898

The order of events cannot therefore be explained simply by a gradually increasing functional activity of the centre as a whole, nor do I see any other way in which the phenomena observed can be intelligibly explained than on the ground of distinct areas within the centre being occupied with these different groups of visual memories—numbers, words, and letters.

In this series of four papers an attempt has been made to give some reasonable explanation of the phenomena observed in the various forms of "mind-," "word-," and "letter-blindness." The views set forth therein have been arrived at by a minute analysis of cases observed and by a critical study of the clinical observations of others. They have the merit of simplicity and of rendering more intelligible the varied and manifold phenomena met with in these conditions.

Glasgow.

A CASE OF TUMOUR OF THE UTERUS COMPLICATED BY TWIN PREGNANCY; CÆSAREAN SECTION; RECOVERY.

BY E. R. C. EARLE, M.B. LOND., M.R.C.S. ENG., L.R.C.P. LOND.,
GOVERNMENT MEDICAL OFFICER, LUCEA, JAMAICA.

ON August 20th, 1898, I was called to attend a black woman who had been in labour since the evening of the 18th. The labour pains were strong and frequent, but the labour had not progressed and she was in great pain. After examining the patient I ordered her to be removed at once to the Lucea Hospital with a view to the performance of Cæsarean section. The following is a short account of the case compiled from the notes taken on the hospital case sheet. I may add that I was ably assisted in this operation by Dr. C. M. Phillips and Mr. J. J. Rogers, the Government Medical Officer at Green Island.

The patient was a black woman, about thirty years of age, and was admitted into the hospital at 9 A.M. on August 20th, 1898. She had been in labour since the evening of the 18th. The abdomen was very much distended and the labour pains were frequent and strong. On vaginal examination a large, firm, elastic tumour was *found* occupying the pelvic brim and projecting into the upper part of the pelvic cavity. There was a space of about an inch between the anterior surface of the tumour and the symphysis pubis and a similar space on each side between the tumour and the pelvic brim. The tumour was fixed and could not be moved. The os uteri could not be felt at first, but on curving the index finger behind the symphysis and pushing it up as far as possible the os was felt above the pubes slightly to the left of the middle line. The os was partially dilated and flattened antero-posteriorly, simulating a slit-like opening, and was on a level with the upper border of the symphysis. When the patient assumed the upright position the distension of the abdomen was most noticeable and on examination per vaginam in this position the os could not be felt with the finger. Dr. Phillips and Mr. Rogers having examined the patient in consultation with me it was decided to perform Cæsarean section without delay. A vaginal douche was administered and the rectum was emptied by an enema. The urine was drawn off by a catheter and the abdominal surface was thoroughly cleansed and asepticised. Chloroform was administered at 11.15 A.M. and the operation commenced at 11.30 A.M. A vertical incision was made in the middle line 6 in. in length, from 1 in. below the umbilicus to about 2½ in. above the symphysis, and was continued through the abdominal wall, only two small arteries requiring torsion. The peritoneum was exposed and divided on a director the whole length of the wound. There was no bleeding from the abdominal wound after the two small arteries had been twisted. The uterus was brought forward into the abdominal wound and fixed there by Dr. Phillips. A vertical incision was made in the anterior wall of the uterus commencing near the fundus and extending downwards for about 4½ in.; the hæmorrhage was rather free. The membranes were ruptured and a male child was extracted by the feet, the head being delivered last. It was then found that there was another child in the womb situated behind the first, with the head at the fundus and the breech at the lower segment of the womb. This was quickly extracted, the head coming first and the legs last. There were two distinct placentæ which required a considerable amount of manipulation to extract. The hæmorrhage ceased after the placentæ were removed. It was then seen that there was a large solid fibroid tumour of the body of the uterus involving the whole of the posterior surface and right side from the fundus to the cervix and extending down behind the cervix into the pelvis. The incision happened to be made along the anterior border of the tumour, so that the left lip of the wound in the uterine wall was through normal uterine tissue and the right lip was along the edge of the tumour. There was also a smaller fibroid tumour on the left side of the uterus, of about the size of a small apple. The uterine appendages on either side appeared to be normal. The uterine tumour was 9 in. in length, 7 in. from side to side, and about 5½ in. antero-posteriorly. It was pear-shaped, being broader at the fundus and narrower at the pelvic brim. The uterine wound was closed by 5 large, deep, silk sutures passed through the uterine wall and 10 small sutures of fine silk through the peritoneum. There was no oozing through the wound after the application of the sutures. Sponges on holders were passed down into Douglas's pouch and on each side but they returned unsoiled showing that there had been no escape of blood into the

The white marks on each side of the abdominal wound are due to reflected light and not to any *discolouration* of the skin. The groove is the result of the strapping; it has now gone and the surface of the wound is level with the abdominal wall.

peritoneal cavity. The parietal peritoneum was then brought together by a continuous fine silk suture and the abdominal wound was closed by 6 large deep sutures, passed through the whole thickness of the abdominal wall, about ¾ in. apart, and about 1 in. from the edges of the wound. 10 small superficial stitches were passed through the skin alone and the wound was completely closed. There was no oozing from the wound after it was closed. No drainage tube was passed into the abdominal cavity. The wound was sprinkled with a mixture of boric acid powder and iodoform and covered with a layer of oiled silk. Over this was placed iodoform gauze, sal alembroth gauze, and lint soaked in carbolic acid lotion, and over all a layer of wood-wool dressing, the whole being kept in position by an abdominal bandage. An injection of strychnia ($\frac{1}{30}$ gr.) was given hypodermically and a morphia suppository (¼ gr.) was placed in the rectum. The operation was over at 12.30 P.M. and the woman was replaced in the bed at 1 P.M. The children were both males—one weighed 5 lb. and the other 4½ lb. They were puny, weak, and thin. When removed from the womb the first one did not breathe and the second gave only one or two gasps, but they were both thoroughly revived in ten minutes. The urine was drawn off at 5 P.M. At 4 P.M. the temperature of the patient was 100° F. and at 8 P.M. it was 101° when there was no pain, but there was a bloody discharge from the vagina. At 11 P.M. the temperature was 101° and the pulse was 114. The next day (August 21st) at 6 A.M. the temperature had declined to 99° and there was neither hæmorrhage in the vagina nor pain in the abdomen. At 10 A.M. the temperature was 100° and the pulse was 96. The vagina was douched with carbolic lotion (1 in 80). The vaginal discharge was normal and without odour. The temperature from 2 P.M. to 2 A.M. on the 22nd remained at 101° and the pulse was 108. The patient slept well on the night of the 21st. She had no hæmorrhage or pain, the lochia were normal, and she took nourishment well. At 6 A.M. the temperature was 99·4° and the pulse was 108. At 2 P.M. the temperature had risen to 101·6° and the patient complained of griping pains in the abdomen, her temperature at 6 P.M. being 102·2° and her pulse 126. The bloody discharge from the vagina was now more copious than before. A douche of carbolic lotion (1 in 80) was administered. At 10 P.M. the temperature had declined to 101°. On the 23rd the temperature at 6 A.M. was 99·4° and the patient was doing well. She had slept well at night. Her pulse was 106. The temperature at 2 P.M. was 101·4°. At 5 P.M. another douche was administered. At 10 P.M. her temperature was 101·4°. On the 24th the temperature at 6 A.M. was 100·4°. The patient had slept fairly well and had had no pain or hæmorrhage. She was, in fact, very comfortable. At 2 P.M. the temperature was 102·6°. The discharge from the vagina was copious and in large clots, but the odour was normal. The vagina was douched again. The patient complained of pain in the breasts. At 6 P.M. the temperature was 104·4° and the pulse was 122. The odour of the discharge was normal. The left breast was rather full and the tongue was slightly furred, the temperature at 9 P.M. being 102°. On the 25th the temperature at 3 A.M. had declined to 99·8° and at 7 A.M. to 99·4°. The patient had slept well, but had pain in the back. At 9.30 A.M. the wound was dressed for the first time, when there was no soiling of the dressings and the wound had partially united by first intention. The discharge from the vagina was free and normal and the pulse was good. The temperature at 4 P.M. was 103·2° and the pulse was 106. At midnight the temperature was 103°. On the 26th at 6 A.M. a soap-and-water enema was administered. The lochia were greenish in colour but normal and there was no pain in the breasts. The temperature was 102° and the pulse was 106. At 5 P.M. the temperature was 103·4° and at 11 P.M. it was 101°. On the 27th at 6 A.M. one large and four small stitches were removed. A slight amount of thin purulent fluid exuded from one of the large stitches. The temperature was 102° and the pulse was 114. At 1.30 P.M. the temperature was 103·2° and at 9 P.M. it was 101·6°. On the 28th at 7 P.M. an enema was given and the bowels were freely opened. The temperature was 101·2° and at 1.10 P.M. it was 102·6°. On the 29th I found that she had passed a restless night and this morning she lost the power of motion on the left side and her speech was indistinct. There was pain in the right side of the chest and the back. The wound was dressed and

The patient rapidly recovered the power of motion and of speech. The lochia were less but were normal. Both lungs were found to be much congested at the bases at the back. The temperature at 7 A.M. was 101° and at 4 P.M. 102·4°. On August 30th the patient's condition was better. Her speech was clear, the abdominal wound was healing, and the vaginal discharge was normal. The temperature at 9 A.M. was 101·4° and at 10 P.M. it was 102·6°. The pulse at 9 A.M. was 98. On the 31st the temperature kept at 101° during the day, and on Sept. 1st, at 9 A.M., it was 99·6° with a pulse of 92. At 5 P.M. the temperature became normal and remained so on the 2nd with a pulse of 86. On the 3rd it was 99·4° all the day and the patient was much improved and stronger. The improvement continuing, on the 4th four stitches were removed. The wound was healing. From this day until the 10th the temperature did not rise above 99·4°. On that day at 6 P.M. it was 101·4° and at 10 P.M. it was 102°, with a pulse of 120. On the 11th the temperature became normal and the pulse was normal also. The abdominal wound was now quite healed and the uterine tumour was much smaller. On the 15th the patient began to walk about the ward and on the 20th she was discharged.

This case of Cæsarean section is interesting in many ways. It shows in a remarkable manner the fact that the presence of a large fibroid tumour of the body of the womb of the dimensions above mentioned did not interfere with the progress of a twin pregnancy to the full term, nor did it prevent the normal uterine tissue from contracting and retracting firmly after the removal of its contents as shown by the normal amount of lochia passed during the puerperium. The only abnormal symptom which occurred was the continued high temperature which was undoubtedly due to the severe congestion of the lungs which lasted for some days. A dose of sulphate of quinine (30 gr.) was given daily during the pyrexia and hot linseed meal poultices were applied to the back and front of the chest and after the pulmonary congestion had subsided the chest was wrapped in cotton wool. During the fever the lochia remained perfectly normal and she never had any symptoms to be referred to the womb itself. The abdominal wound healed without any trouble with the exception that a slight amount of pus collected in two of the larger stitches which was caused by tension. After the tension was relieved by strapping the wound healed readily. The bowels were opened on August 26th by a soap-and-water enema and on Sept. 1st they acted normally. The urine was drawn off by a catheter every five hours until Sept 2nd when she first passed it of her own accord and continued to do so afterwards. Another interesting feature in this case was the remarkable and rapid diminution in size of the fibroid tumour after the operation. A month after the operation it was only about one-third of its original size. This was probably due to the gradual decrease in the blood-supply. The twins were thin, ill-nourished, and weak. I am inclined to think that this was caused by the tumour which used up for its own support a considerable portion of the blood-supply which would otherwise have been devoted to the nourishment of the placentæ. After the pregnancy had ceased and the blood-supply of the uterus had decreased the tumour also rapidly became smaller. The twins are alive at the time of writing (seven weeks after the operation). One of them is strong and healthy but the other is weak and thin and is evidently very delicate. The mother is quite well and strong and the fibroid tumour is causing her no inconvenience.

Lucea, Jamaica

A CASE OF OPERATION FOR EXTREME MYOPIA.

BY ROBERT BRUDENELL CARTER, F.R.C.S. ENG.,
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THE possibility of curing a high degree of myopia by the removal of the transparent crystalline lens has of course been present to the minds of ophthalmic surgeons from the time when the refraction of the eye first received careful consideration, but until recently the risks of the operation were rightly held to outweigh the prospects of benefit from on as primary affection. He thought that it might occur secondarily to hypertrophy of the ventricle in men who were accustomed to great muscular exertion.—Mr. PAGE said that he had formerly seen much of the work of the late Dr. H. G. Sutton and he recalled that he insisted on the fact that aneurysm did not cause hypertrophy of the ventricle.—Dr. ROLLESTON thought that aortic aneurysm was nearly always due to atheroma, and not to increased strain as by high arterial tension, &c. He did not think that simple hypertrophy would give rise to aneurysm, as suggested by Dr. Taylor, unless there was pre-existing disease of the coats.—Dr. H. A. CALEY asked as to the frequency of syphilis among the patients. Was syphilis more common among the younger patients and arterio-sclerosis among the older ones?—Dr. NORMAN MOORE entirely agreed with Dr. Calvert. He insisted that the methods of examination should be exact. The presence or absence of hypertrophy could only be satisfactorily settled by weighing the heart, and arterio-sclerosis could not be excluded unless the kidneys had been microscopically examined.—Dr. CAUTLEY said that the weight of the patient should also be recorded to compare with the weight of the heart in order to form an accurate measure of the hypertrophy. He thought that atheroma was the effect rather than the cause of increased tension. A little outward displacement of the apex beat did not necessarily indicate hypertrophy, as it might be due to mechanical displacement of the heart by the aneurysm.—Dr. CALVERT, in reply, said that he looked on atheroma as an indication of high tension and that the latter gave rise to hypertrophy. If the atheroma gave rise to definite roughening of the coats there might be some obstruction to the flow of blood.

Dr. H. G. TURNEY and Mr. C. A. BALLANCE related a case of Aortic Aneurysm in which there was involvement of spinal sensory nerve roots, and sudden paraplegia for which laminectomy was performed. The patient was a man, aged thirty-five years, who was admitted to St. Thomas's Hospital on Sept. 14th, 1897. He had had a hard chancre seventeen years before admission. Two years before he began to suffer from pain in the middle of the back of an aching character, not constant at first but becoming so later. It soon extended round his body at the same level. For the last four months the pain had been continuous and severe; movement had no effect upon it. Morphia had been necessary to relieve it, and he had lost 2 st. in weight during the four months before his admission. On admission he was seen to be a powerfully-built man, but he was thin, and he had a well-marked expression of pain on his face. He complained in a wailing voice of intense pain in the upper abdomen and back. There was no loss of power or affection of sensation in the extremities. All the reflexes were normal. His mental condition was clear. He referred his pain to a triangular area situated between the fifth rib and the ensiform cartilage on the right side in front. The skin in this area was intensely hyperæsthetic with well-defined borders; a similar condition had been present in the corresponding triangle on the left side, but this part was normal at the date of admission. The rigidity of the back at once attracted attention; it was more marked in the upper half of the spine. There was also a distinct deformity; the site of maximal projection was occupied by the seventh and eighth dorsal spines. The tenth spine was extremely tender. There was no sign of visceral disease in either chest or abdomen. Antispecific treatment was adopted, but without change in the patient's condition. On Oct. 11th the hyperæsthesia was transferred to the left side and there was some difficulty in swallowing solid food. On Oct. 23rd, while the patient was being washed in bed, he called out with intense pain and instantaneously lost power and feeling in his legs. The paraplegia remaining unaltered on the following morning laminectomy was performed. The body of the seventh dorsal vertebra was found to have completely disappeared, its place being occupied by recent clot. The finger was passed into the clot and no hæmorrhage occurred. Death took place ten hours after the operation. At the necropsy a large aneurysm was found arising from the descending aorta on its posterior aspect, situated exactly in the middle line and causing destruction of both vertebræ and intervertebral discs from the sixth to the ninth dorsal. The diagnosis was believed to rest mainly between aneurysm, caries, and new growth, but no final conclusion seemed to be possible even at the operation. The remarkable features of the case were: (1) the insuperable difficulties in the way of a correct diagnosis; (2) the passage of the finger into an aortic aneurysm without hæmorrhage; (3) the localisation of certain sensory areas; and (4) the unusual destruction of the intervertebral discs equally with the vertebral bodies from pressure.—The PRESIDENT asked for the exact reasons for operating, as the diagnosis before the operation seemed to be that there was a growth? He said that he had no faith in the hot sponge as a test of caries.—Mr. PAGE thought that the clinical history seemed to suggest that rupture of the aneurysm might have been the cause of the sudden paraplegia. He agreed with the President as to the worthlessness of the hot sponge test.—Dr. TURNEY, in reply, said that at the time of the operation the diagnosis was not clear and laminectomy was performed to relieve pressure on the cord. This was so far successful that the lower intercostal muscles which had been paralysed before the operation resumed their function.

MEDICAL SOCIETY OF LONDON.

The Conduct of the Heart in the Face of Difficulties.

A MEETING of this society was held on Jan. 9th, the President, Mr. EDMUND OWEN, being in the chair.

The PRESIDENT proposed that a letter of condolence should be sent to the relatives of the late Dr. Hare, who had been a Fellow of the society since 1850, Lettsomian Lecturer in 1861, and President in 1866.

Sir WILLIAM BROADBENT read a paper on the Conduct of the Heart in the Face of Difficulties. He said that he had taken this subject at the request of the President who had asked him to deal with the behaviour of the heart itself as well as its management by the physician. Sir William Broadbent said that many of the difficulties of the heart were not of its own making but were imposed on it from outside, as by pressure of a dilated stomach, of a pleural effusion, or of an aneurysm. In other cases the difficulty was due to peripheral resistance, as in cases of high arterial tension. If pressure were gradual the heart suffered little embarrassment, beating, for example, with fair force when so much displaced by a left pleural effusion that the apex beat was felt under the right nipple. But a sudden displacement by the occurrence of pneumothorax or rapid dilatation of the stomach was attended by great embarrassment and dyspnœa. Probably flatulent distension of the stomach caused in the mass more suffering than actual heart disease. The heart had special relations with both the cerebro-spinal and sympathetic systems and in some individuals owing to undue nervous excitability mental or emotional excitement or even indigestion gave rise to disproportionate reflex effect on the heart. When there was pain it was often difficult to diagnose whether it was due to external causes or not. The absence of physical signs would help, but even where there was some valvular lesion flatulent distension might be responsible for the pain. Even angina might be simulated, but that at first came on with exertion, while the spurious form came on during repose. A weak heart might even be brought to a standstill. In women angina pectoris was almost always spurious. If any symptom could be "walked off" it might be put down as functional, as might be an intermittence of the pulse of which the patient was conscious. Patients with functional derangements of the heart often to their own hurt made them an excuse for avoiding exercise and for taking stimulants. One of the most common difficulties was due to high arterial tension. This was apt to give rise not only to salutary hypertrophy but to increase of fibrous tissue which afterwards might degenerate, the valves in some cases suffering before the heart muscle. It should be remembered that digitalis, by constricting the arterioles, raised the tension and might increase the strain. With regard to the difficulties in the case of valvular disease the first thing was to ascertain the amount of mitral regurgitation or of aortic constriction. If there was no accentuation of the pulmonary second sound there was no need to interfere with the patient's mode of life. If there were no dyspnœa but there was good compensation nothing need be done, but the patient must be warned that any sudden or excessive exertion might cause a break-down. But in cases where there was mitral regurgitation with enlargement of the liver and anasarca and scanty and albuminous urine, the first thing was to relieve the right side of the heart. There was nothing which relieved the heart so marvellously as venesection, but in these degenerate days it was difficult to employ it. As an alternative six or eight leeches might be applied over the enlarged liver. Either should be followed by a smart purge. When the right side had been relieved digitalis might be given with excellent effect. The anasarca might be relieved by Southey's tubes and the pleura should be aspirated early. The principle of treatment was to get rid of the difficulties rather than to urge the heart on to more violent efforts to overcome them.

The PRESIDENT asked whether when Sir William Broadbent spoke of these degenerate days he referred to patients or to practitioners.

Dr. A. E. SANSOM said that he was entirely in agreement with Sir William Broadbent's contentions. He remarked on the extreme tolerance of the heart muscle. A case had even been recorded in which it was alleged that a wound of the right ventricle had been successfully sutured and another in which a bullet was found embedded in the heart muscle of a man aged seventy years where it had lain for a long time without causing inconvenience. He thought that perhaps too much importance was attached to the muscle itself. The most extreme fatty degeneration was seen in cases of anæmia and yet if the anæmia in those cases had been relieved no doubt the fatty degeneration would have passed off. The nervous relations were of even greater importance than the condition of the muscle. He protested against the routine administration of digitalis in heart disease and suggested that the abuse of cardiac tonics was sometimes responsible for sudden death in patients suffering from valvular heart disease.

Dr. THEODORE WILLIAMS mentioned a case in which from distension of the stomach the patient became actually livid and apparently in great danger. The relief of the flatulence led to almost complete disappearance of the symptoms. The neuroses of the heart were very difficult to treat. He mentioned a case which he believed to have been one of spurious angina in which the attacks alternated with attacks of asthma. The patient ultimately died suddenly. As to the tolerance of the heart muscle he related the case of a child who ran a needle into the chest through the intercostal space, apparently wounding the heart. It was removed by Sir John Erichsen and there were no symptoms. In another case of which he knew a man was wounded by an assegai in the heart and did not get surgical attention for half an hour, but he made a perfect recovery.

Dr. ALEXANDER MORISON asked whether Sir W. Broadbent still held to his belief in the occurrence of non-synchronous action of the ventricles. He quoted a case showing the rapid therapeutic effect of strophanthus and nux vomica in a case of ascites and anasarca complicated with albuminuria and diabetes. He remarked that the three factors of the functional activity of the heart—nerves, muscle, and blood—must not be dissociated. He agreed about venesection and said that the smallest quantity which should be taken away should be 4 oz.—a "heartful of blood."

Dr. SYMES THOMPSON said that in functional disorders there was a great tendency for the patient to exaggerate his troubles and possibly for the medical man to under-estimate the amount of distress. He quite agreed that in cases of heart embarrassment the important thing was to diminish its labour. The late Sir George Johnson taught that in cases of acute kidney trouble it was wrong to stimulate the kidney, but it should be relieved of some of its work, and the same was true of the heart. Venesection or a mercurial dose followed by a saline purge should precede the employment of cardiac tonics.

Dr. R. MAGUIRE thought that one of the causes of difficulty was variation in the negative intrathoracic tension. In emphysema the amount of dyspnœa was often out of proportion to the extent of lung disabled and might be due to lessened excursion of the chest wall and less suction action. He thought that the pulsus paradoxus could be ascribed to increase of this negative pressure. In most people it could be produced by throwing the shoulders back and taking a gasping inspiration. Probably many intermittent pulses where one beat was missed in five were really instances of pulsus paradoxus produced in this manner.

Dr. CALVERT said that senega was often employed in mixtures as a "stimulant expectorant." It was, however, a cardiac depressant and if as much of the active principle as would be taken by a man in the day were injected into a cat it would die at once from cardiac failure. It had the further disadvantage that it was a decided irritant to the stomach.

Dr. ROBERT JONES asked whether toxins formed in the body could have any direct effect on the heart. He mentioned a case in which there was great rise of pulse-rate during the status epilepticus, and subsequently acute fatty degeneration of the heart muscle was found.

Dr. H. A. CALEY asked whether the heart failure in cases of high arterial tension and dilatation of the stomach might not be due to a toxæmic condition and as to whether interference with the coronary circulation leading to disturbance of the nutrition of the heart wall might not be one of the important factors.

Sir WILLIAM BROADBENT, in reply, said that in the case of dilated stomach the mechanical nature of the interference with the heart's action was proved by the immediate relief which followed eructation. He thought that there was nothing to compare with venesection in severe cases, and would take not 4 but 12, 16, or even 20 oz. and sometimes would repeat it. As illustrating the tolerance of the heart muscle he mentioned a case in which a needle, probably introduced in early childhood, was found transfixing the septum ventriculorum. He did not think that the fatty degeneration found in cases of anæmia was of the same nature as that found when there was blocking of the coronary arteries. In the latter the muscle was much more soft and friable. He mentioned a case in which a man consulted him suffering from cardiac embarrassment associated with dilatation of the stomach. Instead of going to bed he took a journey, ate a heavy dinner, and died almost immediately after. He still thought that in cases in which all the heart beats did not reach the wrist there was non-synchronous action of the ventricles. When there was a systolic murmur present it was only audible with the beat which reached the wrist. In one case where a thrombus was subsequently found in one of the ventricles only one beat in five reached the wrist. He attributed the cessation of the pulse when a gasping inspiration was taken, as mentioned by Dr. Maguire, to suction on the left auricle preventing the ventricle from filling.

OBSTETRICAL SOCIETY OF LONDON.

Ectopic Gestation.—Vulvar Discharges in Children.—Exhibition of Specimens.

A MEETING of this society was held on Jan. 4th, Dr. C. J. CULLINGWORTH, President, being in the chair.

Dr. ARCHIBALD DONALD read a paper on a case of Ectopic Gestation at the Seventh Month in which the Fœtus was Extracted by Vaginal Incision. The patient, aged thirty-three years, was admitted to St. Mary's Hospital, Manchester, on July 20th, 1898. She had been married about a year and had been regular till Jan. 20th. In February she had a slight discharge which in March existed continuously for three weeks. On admission the abdomen was uniformly enlarged by a tumour which reached about four inches above the umbilicus. A loud souffle was distinctly heard. The cervix was close to the pubes and the uterus could be mapped out bimanually in front and to the left and seemed of about the size of a two months pregnant uterus. The posterior vaginal fornix was bulged by a hard mass which almost filled the brim; this mass was the fœtal head in which the sutures could be felt. On August 18th, 1898, abdominal section was performed and the placenta was exposed. The wound was therefore temporarily covered and the child was delivered through a posterior vaginal incision by cranioclasm and the sac packed from the vagina with iodoform gauze. Alarming hæmorrhage occurred when the gauze was removed on the fourth day. The separation of the placenta occupied some weeks, but the patient made a good recovery and was discharged strong and well on Nov. 12th. The author described the position of the fœtus in the broad ligament and discussed the advantages of the vaginal route.—Dr. GALABIN said that in intra-ligamentous pregnancy the vaginal methods of operating when practicable secured several advantages obviating the necessity of stitching the sac to the abdominal wall, and any temporary sinus caused little inconvenience. In several cases of extra-uterine gestation of shorter duration than seven months he had adopted the plan followed by Dr. Donald of making an exploratory abdominal section and, if the case proved to be one of intra-ligamentous pregnancy unruptured or if the pelvis was completely shut off by adhesions, opening the sac per vaginam. The advantage of abdominal exploration was shown in one case where the sac had been ruptured and a large quantity of blood was effused into the peritoneal cavity. He had removed the placenta in one case through the vaginal incision three days after the operation and the patient rapidly convalesced.—The PRESIDENT said that Dr. Donald could already lay claim to be considered as a pioneer in the treatment of early ectopic gestation by operation through the vagina and he had now brought before the society a case of advanced ectopic gestation treated by the same method. Dr. Herman had collected several instances in which in the years gone by an extra-uterine fœtus had been extracted through an opening in the vaginal roof, but Dr. Donald by opening the abdomen had completed and made certain the diagnosis and had thus made himself master of the situation. He (the President) asked if any opinion had been formed as to the source of the hæmorrhage?—Dr. DONALD, in reply, said that Dr. Walls who was responsible for the after-treatment of the case believed that the hæmorrhage came from a placental vessel. Though he had not discussed in his paper early tubal pregnancy he (Dr. Donald) expressed the opinion that the vaginal incision was safer than the abdominal in early cases—i.e., up to the third month.

Dr. DRUMMOND ROBINSON gave the results of his investigation of 50 cases of so-called Vulvitis in Children. The condition was found to be most common in children under five years of age, common between the ages of five and ten years, and uncommon in children who were over ten years of age. In 41 of the cases (76 per cent.) the pus cells of the discharges contained cocci which presented characters which, as far as is known, are peculiar to the gonococcus of Neisser. The contagious character of the discharge was illustrated by several cases. The chief symptoms were painful micturition and pruritus vulvæ; occasional complications were ophthalmia, peritonitis, and arthritis. In most cases the inflammation appeared to be superficial to the hymen. Dr. Robinson expressed the opinion that the majority of cases of vulvitis in children were probably gonorrhœal in origin.—Dr. BOXALL said that it seemed to him remarkable, if the whole of the 41 cases were to be regarded as gonorrhœal, that only 1 showed evidence of conjunctivitis.—Dr. SNELL said that he had seen several cases of vulvitis in children occurring in families where in all probability gonorrhœal infection was impossible. The subjects were usually weakly but the complaint was easily and quickly cured.—Dr. A. ROUTH thought that though at present these diplococci were indistinguishable from gonococci it would be found that they were not really identical. He thought that vaginitis might be caused by infection from the vulva during incautious examinations.—The PRESIDENT said that Dr. Robinson's paper was important from the scientific and from the practical medico-legal aspects. He asked whether by culture experiments Dr. Robinson had confirmed the diagnosis? He called attention to a paper published in 1859 by the late Sir W. Wilde on some medico-legal aspects of purulent discharge in children. In Dr. Robinson's cases pain on micturition was recorded as a common symptom; might not this be due to the inflamed state of the vulva and not to urethritis which was not an essential feature in acute gonorrhœa in the female? Vaginitis was comparatively rare in the gonorrhœa of the adult.—Dr. HANDFIELD-JONES found it difficult to believe that over 70 per cent. of all vulvar discharges in children depended on gonorrhœal infection. The following points seemed to him to render the gonorrhœal theory doubtful: (1) the disease had not spread to neighbouring tissues; (2) it was readily cured; (3) the inguinal glands were rarely enlarged; (4) the disease was common in delicate children and rare in the robust; and (5) in undoubted infection by rape the disease was much more severe than in ordinary cases of vulvitis.—Dr. ROBINSON, in reply, stated that he did not think that the absence of vaginitis in these cases was an argument against their gonorrhœal nature as vaginitis was rare in gonorrhœa in the adult. He did not agree with Dr. Handfield-Jones that most of these children were sickly; on the contrary, they were generally in excellent health. Absence of enlargement of the inguinal glands and the ease with which the disease was cured showed that the disease differed from that in adults. His views were based not on the clinical aspects of the cases but upon bacteriological investigation.

The following specimens were shown:—

Dr. LEA: A Uterine Tumour expelled during delivery.

Dr. ADDINSELL: Microscopical Sections of an Ovary and Tube removed for the relief of intermenstrual pain.

Dr. AMAND ROUTH: Early Pregnancy in the Uterus of a bitch.

Dr. BOXALL: Dermoid Tumours of both Ovaries.

HARVEIAN SOCIETY OF LONDON.

Formation of Adhesions in the Joints, the Peritoneal Cavity, and Elsewhere.

A MEETING of this society was held on Jan. 5th, Dr. ROBERT BOXALL being in the chair.

Mr. HOWARD MARSH read a paper, entitled, "On the Subsequent History of Cases in which Adhesions have formed in the Joints, the Peritoneal Cavity, and elsewhere." He remarked that adhesions were identical with the new connective tissue formed to repair wounds and were apt to result under various circumstances when the tissues were maintained in a condition of irritation. Their extent and firmness depended on the activity and duration of the inflammatory process in which the parts concerned were involved. One of the chief laws regulating the production of new tissue in the healing of wounds was that of conformity to type. In other words, new material served the purpose of, as far as possible, restoring structures to their typical or original state. To this end in an aseptic wound only just so much as was required was produced. But when the tissues were maintained in a condition of inflammation new material was organised in superfluous amount and in such parts as the joints and the peritoneum accumulated in the form of adhesions. Such adhesions, however, played no part in the restoration of the structures to their typical condition. On the contrary, they were abnormal and while they remained true or complete repair—that is, restitution to type—could not take place. Before repair could be perfect they must be got rid of, just as the superfluous callus (termed temporary) formed in the repair of a fracture was removed. Now this result was provided for. Undoubtedly adhesions if not too extensive and firm tended to be absorbed. This result, though often met with in the joints, was most obvious in the peritoneum. Many cases had been met with in which after pelvic cellulitis or tuberculous peritonitis extensive adhesions completely disappeared. A typical case was related. A middle-aged woman, after peri-uterine inflammation, suffered so much pain and flatulent distension, accompanied by attacks of constipation and vomiting, that an exploratory laparotomy was performed, when it was found that the intestinal coils were so extensively and firmly matted together that nothing could be done. The patient, however, gradually improved. Two years later laparotomy was undertaken for the removal of an ovarian cyst. It was then observed that almost every trace of adhesions had disappeared. Now the existence of this strong natural tendency to the absorption of adhesions—like the absorption of temporary callus—was a very important fact in respect both to prognosis and the management of clinical cases. It was, indeed, the key to the treatment of many joints whose movements were restricted by adhesions, either in their interior or in the surrounding parts. In this connexion cases must be systematically divided into three groups in the order of their severity. In the first group, where adhesions were the result of inflammation neither severe nor prolonged, such adhesions as were developed soon spontaneously disappeared and the joint regained its free range of movement. In the second, in which inflammation had been more active and prolonged, the adhesions were so extensive and firm that unless surgical interference was adopted they remained and rendered the joint permanently stiff. Here it was necessary to manipulate the joint under an anæsthetic so that the adhesions were ruptured; and to follow this proceeding up by the use of passive movements and massage. Under this method of treatment absorption would occur. The third group included cases in which as the result of acute inflammation extending over some weeks the structures of the joint had been destroyed and replaced by very extensive and firm adhesions so that the joint was virtually converted into a scar. In such cases manipulation could do no good. The scar might of course be torn through but the only result would be that as soon as the scar re-formed the loss of movement would be more complete than ever. In practice, before treatment could be determined upon, it was obviously necessary to ascertain to which group the particular case in hand belonged. This could generally be done by taking into account the cause of the inflammation in which the joint had been involved, the degree and duration of the inflammatory process, and the present symptoms. In cases of traumatic inflammation not severe and not of long duration and now unattended with heat and pain movement would probably be restored as soon as the joint was gently exercised. In the second group the same favourable result would follow manipulation massage, hot douching, &c. It was this group in which formerly so many oversights had occurred in surgical practice and so many cases had been put right by the rough and ready wrenchings of the bone setter. Nor were such oversights even yet entirely ancient history. In the third group, typical of which were joints which had been involved in septic inflammation following parturition and some of the forms of gonorrhœal arthritis, the joint was a mere scar and manipulation was perfectly useless and not a little dangerous. In the great majority of tuberculous cases at whatever stage manipulation was not advisable or even safe. In conclusion, Mr Marsh gave a warning as to massage. In every case in which this method was ordered the surgeon should give precise directions and closely supervise the manner in which they were carried out. He had met with not a few instances in which cases handed over for massage had either, as a mere matter of commerce or ignorantly, although quite conscientiously, been greatly over treated and some severely injured. In the keen competition of the present day not only had massage been sometimes carried too far and even degraded to vile purposes, but it and other methods, good in themselves when duly supervised, had been exploited on a commercial basis and worked by limited liability companies. Doubtless the public had a full right to please themselves. It was, however, necessary under the circumstances that surgeons should study cases under their care as fully as possible and critically discriminate between various groups, and that they should take care into whose hands, whether for massage or any other form of treatment, they, so far as they were responsible, allowed their cases to pass. Many a wolf with a sheep's skin on its back was the embodiment, in the credulous eyes of the public, of an angel of light.

Mr ALBAN DORAN observed that they did not know how far the endothelium in serous and synovial membranes was destroyed by inflammation nor how far it was capable of repair. Destruction of the endothelium greatly facilitated the formation of firm adhesions. Delbet had shown in the thirty-fifth volume of the *Annales de Gynécologie* that rough handling and antiseptic solutions damaged or destroyed the endothelium of the peritoneum. In septic inflammation of a serous membrane the tissues which renovated the endothelium were probably destroyed. On the other hand, long standing tuberculous peritonitis seemed far less destructive, as Mr Marsh had noted in tuberculous disease of joints. Mr Doran had operated frequently for tuberculous peritonitis, one patient died a few years later from phthisis and the small intestines which had been matted together at the operation were found almost free after death except in the pelvis.

Mr HORACE MANDERS remarked that it was evident that the first stages of inflammation were frequently induced by traumatic disturbance without any influence from microbes, perhaps they were not all in accord as to the precise meaning of the term "inflammation." He thought that Mr Marsh had pointed out, with great clearness as regards treatment, that in cases of simple plastic inflammation with excess of callus the surgeon could dominate the injury by manipulation or operation, keeping out microbic invasions by aseptic precautions, but in cases of adhesive inflammation of joints due to microbic infection a different condition obtained and any attempt at manipulation always failed. This Mr Manders believed to be due to the fact that the tissues, especially the endothelium were dissolved by the toxins secreted by these microbes whether tubercle bacilli, streptococci, or gonococci, and that until a means could be found of neutralising these toxins the microbes which had taken the initiative remained masters of the situation.

Dr BOXALL remarked that the effusion of thick plastic lymph into the peritoneum like the provisional callus around a bone was a wise provision of nature which often served to shut off the general peritoneal cavity and protect it from injury. Having served its purposes, this effusion in the majority of cases became subsequently almost completely absorbed. The reason why in some cases but not in others the process of repair seemed to run riot so that one or more firm bands of adhesion were left was by no means clear.

LIVERPOOL MEDICAL INSTITUTION.

Perforating Ulcer of the Stomach.—Myxœdema treated with Colloid.—Exhibition of Cases and Specimens.—The Vaccination Act of 1898.

A MEETING of this society was held on Jan. 5th, the President, Dr MACFIE CAMPBELL, being in the chair.

Mr. ROBERT JONES related the histories of two cases operated upon for Perforating Gastric Ulcer, one of which recovered and the other died fourteen days after operation. In the first case a woman, aged nineteen years, the perforation had existed for three hours and was situated on the posterior aspect near the pylorus. Some partially digested milk had exuded. There was no peritonitis. The ulcer was inverted and stitched and the wound closed without drainage. She made an uninterrupted recovery. From the appearance of the ulcer, absence of anæmia, and previous history of tubercle, Mr. Jones suggested the possibility of the tuberculous nature of the ulcer. The second case, a woman, aged twenty one years, was operated upon fourteen hours after perforation; she was very collapsed and a large indurated perforation was found near the cardiac end of the lesser curvature on the anterior aspect. There was exudation of partially digested food. Adhesions had formed to the liver and abdominal parietes. There was considerable exudation of lymph which had to be forcibly scraped. The ulcer was obliterated by a purse string suture, fortified by Lembert stitches and completed by stitching omentum over the area. She progressed fairly well for fourteen days when she vomited pus. An incision was made and a perisplenic abscess containing foul pus was found. She was very collapsed and died twelve hours later. A post mortem examination showed the perforation to have quite healed. There was no communication between the wound area and the perisplenic and sub-diaphragmatic abscess cavities. The diaphragm was burrowed through and the lung opened into. There was no ulcer on the posterior aspect of the stomach. Mr. Jones agreed with the recent suggestion of Mr F. Furner that the lesser sac of peritoneum should be irrigated and the posterior aspect of the stomach inspected in nearly all cases.—Mr. FRANK T. PAUL, while fully agreeing with Mr Jones as to the value of early operation, thought it was sometimes possible to attain success after a longer delay than twenty-four hours. Stomach fluids in the peritoneal cavity were much less virulent than intestinal matter, the general depression was much less and the inflammatory changes were more plastic. He advised more pains to be spent in drying out the peritoneal cavity than in flushing it, a complete and thorough flushing was impossible. When the soiling was general a drainage tube should be put in Douglas's pouch through a separate opening. In Mr Jones's second case, a difficult and severe one, he thought it had been dealt with most ingeniously and it was only through an accident that its ultimate success was marred.

Dr BUCHANAN related a case of Myxœdema in a man, aged fifty four years treated with "colloid" matter according to Dr R. Hutchinson's formula. The disappearance of symptoms was shown to be remarkable, and after four months' treatment the restoration to health was complete. The case was illustrated by a series of lantern slides demonstrating in a marked degree the condition of the patient before and while undergoing treatment.

Dr ALEXANDER showed a Calvarium from a man aged twenty four years, who was brought to the parish infirmary by the police from an hotel in the city. He had been found lying on a bed semi conscious and bleeding slightly from one nostril. A revolver was found on the floor with one chamber empty; there was no mark of any injury on his face or any discolouration from powder. He remained in a semi conscious condition and died the day after admission. Post mortem there was found a scarred fracture of the external table of the frontal bone around which the periosteum was raised. On opening the skull a fracture of the cribriform plate of the ethmoid was found and a bullet was discovered in the brain substance above, it had impinged on the internal table making only a small indentation. The frontal lobes were much damaged.

Dr BRIGGS showed a specimen of a Uterine Fibroid weighing 13½ lb removed from a single woman aged thirty-three years. The operation was performed on Nov

1898, through an abdominal incision by hysterectomy, of which enucleation was the first step.

Dr. N. E. Roberts read a paper on the Vaccination Act, 1898, and the Local Government Board Order of Oct. 18th. He deplored the attitude of hostility which large sections of the community had assumed towards vaccination. There could be no doubt that these good people had given them a fall and repudiated them and their work in the matter of vaccination. Not until some great calamity occurred would this insane agitation be stifled; meanwhile they were drifting into a position of great danger. He particularly deplored the fact that large numbers of objectors were animated by a high enthusiasm, regarding their action as a kind of holy war, in a neighbouring town thousands crowding for exemption certificates singing "Christians Awake" and other appropriate hymns. He explained the provisions of the Act and Order and appealed for cordial relations between the public vaccinators and the private vaccinators under the somewhat trying circumstances of the public officer having to visit the homes.—The President in opening the debate said that probably no more retrograde step had ever been taken by Parliament—a step by which the majority had been handed over bound hand and foot to a fanatical minority. Calf lymph, be thought, was responsible for a certain amount of insufficient vaccination. He had used calf lymph exclusively during the last fifteen years and required to operate a second time in about 15 per cent.; this gave rise to dissatisfaction among the friends. What, again, was to be done with cases in which only one or two marks took? He generally recommended revaccination in four or five years. The importance of cleanliness in skin and instruments was now well understood and everything should be done to remove prejudice against the operation.—Mr. Rushton Parker said that in England the public seemed determined to take the risk of small-pox for some of their children. Whether the Government were wise or not in adopting the recent Vaccination Act it was evident that they were, as individuals, staunch adherents of vaccination and only adopted this Act as being in their expectation more likely in the long run to maintain the practice of vaccination than the order for its compulsion upon a democratic community who largely refused to be coerced in this matter.—Dr. Hugh R. Jones called attention to two statements in the report of the Royal Commission—that vaccination was protective against small-pox and that vaccination could not be replaced at present efficiently by other preventive measures. There was, however, another side; isolation, notification and disinfection, as subsidiary measures, ought to receive their full credit and the hope of the future for the extinction of infectious diseases depended chiefly upon efficient sanitary measures.—Dr. Hope considered that the present grave condition in respect to vaccination was contributed to by the very long period, extending over many years, which the Royal Commission took before publishing their conclusions. During these years the opponents of vaccination were extremely active and unfortunately very successful. He pointed out that the Bill introduced by Mr. Chaplin differed very widely from the Act as passed—an Act which was in absolute and direct antagonism to the carefully considered recommendations of the Royal Commission whose exact words were: "We are of opinion that the State ought to promote the vaccination of the people"; and again, "We can see nothing to warrant the conclusion that in this country vaccination might safely be abandoned and replaced by a system of isolation."—Dr. Smart, Dr. Archer, Dr. Permewan, Dr. Hill, and Dr. Grünbaum spoke.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

Acute Infective Inflammation in Bone.—Exhibition of Cases.

A meeting of this society was held on Dec. 21st, 1898, Mr. Pryce, President, being in the chair.

Mr. Morley Willis read a paper on Acute Infective Inflammation in Bone. The difficulty attending the early diagnosis of this condition was remarked upon and stress was laid upon tenderness of the bone in the neighbourhood of an epiphysis, taken in conjunction with the other signs of acute disease, as being an important aid in forming an opinion. The pathology, it was stated, was usually an acute infective osteomyelitis developing near the epiphyseal line where pathological changes are prone to occur. Acting on this idea of the origin of the disease the treatment should consist of not merely incising the periosteum, but trephining the shaft of the bone near the epiphyseal line, enlarging the opening if necessary, and removing all the acutely inflamed medulla, irrigating with some efficient antiseptic, and lightly packing with gauze. A case was related which showed the futility of the treatment which stopped short when the periosteum had been incised; the disease spread to the knee-joint and the leg had to be subsequently amputated. This it was believed might have been averted had the bone been trephined in the first place.—Mr. Chicken did not share the views expressed by Mr. Willis as to the pathology of the disease.—Mr. Mackie related a case in which suppurative pericarditis followed the necrosis of a long bone; the pericardium was opened and drained and the patient made a complete recovery.—Mr. A. R. Anderson and the President also discussed the paper.—Mr. Willis replied.

Dr. W. B. Ransom showed:—1. A patient (and read notes of the case) who had been affected with Paralysis of the whole of the Left Side, including the Face, together with the Right Leg. His symptoms pointed, it was thought, to a thrombosis of the basilar artery, but he had completely recovered under treatment, only a very slight weakness of the left hand remaining and that was diminishing. 2. A Brain showing Sarcoma of the Cortex. The patient had improved for a time under iodide of potassium but then became worse. Operation was undertaken but removal of the whole growth was impossible. 3. The Brain of a patient who had suffered from Aphasia which was discovered to have been due to thrombosis of the central branches of the Sylvian artery.

Mr. A. R. Anderson showed:—1. A patient after Pylorectomy. The duration of the symptoms had been only three months according to the patient's statement. They had consisted of vomiting and pain. No blood had been vomited. There was great dilatation of the stomach at the time of operation. Previously to operation the stomach was washed out. The growth was excised and union between the stomach and the duodenum was effected by sutures only. The operation lasted 1 hour and 5 minutes. Food was given by the mouth on the third day after operation. The patient left the hospital perfectly well in every respect and had remained so up to the present time. A section of the growth showed it to be a spheroidal cell carcinoma undergoing colloid change. 2. Osteo-sarcoma of the Fibula removed by operation. 3. Notes of a case of Transperitoneal Uretero-lithotomy. This case was one in which the symptoms simulated closely those of appendicitis of which there had been apparently several attacks. An operation for appendicitis was undertaken in a quiescent interval; the appendix was found to be quite healthy and normal but on feeling about a stone was discovered in the right ureter at the brim of the pelvis. The original wound was closed and allowed to heal and when this had occurred another operation was undertaken for the removal of the stone in the ureter. An incision was made in the right linea semilunaris and the bowels being kept out of the way with sponges the ureter was incised and three small stones were removed which formed a chain. The lowest one was of uric acid and the other two were of phosphatic nature, soft and crumbling. The ureter was then closed by a continuous suture and a flap of peritoneum was brought over the wound and sutured in that position. The abdominal wound was then closed. Recovery was uneventful and complete and the patient remains perfectly well.

Mr. Chicken showed:—1. The patient and photograph of a case of Congenital Obstruction of the Ethmoidal Infundibula. An incision down the centre of the bridge of the nose was made and the nasal bones were separated. A communication was then established between the middle meatus of the nose and the ethmoidal cells by drilling. The nasal bones were brought back into place and the wound was stitched. Only a faint scar remains and the result has been good, but one side shows some signs of a tendency for the passage to close. 2. Some Abnormal Semilunar Cartilages. These had been removed from the knees of different patients and were undergoing absorption. In some cases they had been nearly loose and Mr. Chicken thought it probable that this was one source of loose bodies in the knee-joint. 3. Skiagrams of Three Ununited Fractures Produced by Direct Violence. They had all been wired with a successful result in each case. 4 *Two specimens of Necrosed Bone* One a minute sequestrum, was found in the centre of the shaft of a tibia in a small abscess cavity containing at the time of operation only a little caseous material The other consisted of the entire circumference and a considerable length of the shaft and had been removed by operation, having been divided into two pieces to facilitate removal

BRADFORD MEDICO CHIRURGICAL SOCIETY.

Ovarian Tumours —Operative Treatment of Cancer of the Breast —Hæmatoporphyrin in the Urine

A MEETING of this society was held at the Royal Infirmary, Bradford, on Dec 20th, 1898, the President, Dr BERRY, being in the chair.

Dr EURICH gave a demonstration of microscopic sections from a series of Ovarian Tumours He mentioned that the malignant or non malignant character of a tumour could not be determined until an operation had been performed, also that in the same tumour there could be demonstrated a change from an innocent to a malignant type, and further that in the ovary itself, although it might not apparently be involved in the tumour, yet malignant disease might be demonstrated microscopically —Mr J B HALL remarked that a tumour might exist for years without showing symptoms of malignancy and he advocated early removal of all tumours as soon as they were diagnosed

Mr J B HALL read a paper on the Operative Treatment of Cancer of the Breast He expressed the opinion that there was a brighter future for the surgical treatment of cancer of the breast than for that of any other form of malignant disease, provided only that the disease was recognised early and that a thoroughly radical operation was performed Mr Hall contended that the bad results of operations in the past had arisen from imperfect removal and he pointed out how greatly the percentages of cures had increased since the introduction of the more extensive methods of operation The aseptic treatment of wounds rendered it now possible to perform these operations without grave risk to life He then gave a summary of the results of operations performed by various surgeons from 1870 to 1898 and contrasted the ratio of cures (5 per cent) which were obtained by Billroth with that (from 50 to 60 per cent) which had been obtained by Halsted, Watson Cheyne and others in the last few years Billroth's cases published in 1878 showed an immediate mortality of 24 per cent., while Halsted's series of 133 cases which had occurred between 1889 and 1898 recovered without any death arising from the operation and in 1897 Bennett May recorded 68 cases without a single fatal result Allusion was made to the researches of Heidenhain, Stiles, and others on the course of the lymphatics of the breast, and the conclusion arrived at was that no operation could be deemed satisfactory unless not only the breast and axillary glands were removed but also the lymphatic channels which run in the pectoral fascia Halsted's operation was selected as fulfilling these requirements, and a description of this operation was given and diagrams were shown to illustrate the steps in the procedure Mr Hall stated that very little loss of function followed the operation and that it was generally possible owing to the large mass of tissue removed to cover in the wound without undue tension on the skin. He said that in the older method of operating the pectoral muscle after being stripped of its fascia became much infiltrated with fibrous tissue and consequently it suffered considerable loss of function The idea that the operation would be accompanied by an increased immediate mortality was negatived by the experience of operators who had used it Mr. Hall contended that in consequence of the contents of the axilla being fully exposed to view, and considering also the possibility of employing the scalpel and the forceps instead of the finger, by no other method could they be so easily and safely removed He then discussed the question of operating in cases which were too far advanced to hope for a cure and advocated operation as a palliative measure in all cases where there was a reasonable prospect of removing the whole growth and in which operative interference would not be exceedingly dangerous to life or leave a hopeless functional lesion —Mr HORROCKS remarked that he thought that in most cases the operation was unnecessarily severe and that the pectoral fascia could be removed without removing the whole muscle. He said that the results of operation in cases of atrophic scirrhus should not be grouped with the results observed in rapidly growing cases as the prognosis was so much more favourable He thought that statistics of mixed cases were consequently unreliable — Mr AITHORP said that the more favourable results obtained in later years as compared with the operations in earlier cases were partly due to improvement in operative technique whereby the immediate mortality of the operations was much reduced —The PRESIDENT asked if it was a fact that cases in which suppuration occurred were more likely to be followed by a cure than those in which primary healing followed —Dr HIME, Dr WOOD Dr BELL, and Dr. ARNOLD EVANS also took part in the discussion —In reply Mr HALL expressed the opinion that it was not possible to remove the pectoral fascia completely while leaving the muscle behind He said that possibly the apparently better result in cases which suppurated was due to the circumstance that the suppuration might possibly be produced by a very extensive handling and bruising of the tissues consequent on an extensive operation

Dr J H BELL read notes of a case in which Hæmatoporphyrin had appeared in the Urine The case was one of nervous affection accompanied by insomnia and sulphonal (in 10 gr doses) had been given to induce sleep, but the patient had continued the administration when no longer under medical supervision

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THE ODONTOLOGICAL SOCIETY OF GREAT BRITAIN —An ordinary meeting of this society was held on Jan 9th at 40 Leicester square —The Treasurer presented the balance sheet for the year ending Oct 31st, 1898 which showed the finances of the society to be in a satisfactory condition —Mr Badcock brought forward a case in which the right maxillary third molar communicated with the antrum The patient in question complained of slight pain in the region of the right molars and an examination of the teeth showed the existence of a cavity on the mesial side of the third molar the pulp cavity being in a septic condition The tooth was extracted with but little difficulty and on the patient rinsing his mouth the water was found to pass through his nose A lotion of boracic acid was prescribed and no subsequent trouble occurred Mr Badcock stated that he had been unable to find any similar case recorded —In connexion with this communication Mr Redman exhibited a dried specimen in which the roots of the third molar opened into the antrum —Mr Baldwin exhibited several instruments of his own designing which he had found useful in practice —Mr H. Lloyd Williams exhibited a small modification of Hammond's splint which he had used for some years for fractures of the mandible, far back, where only one tooth, usually the third molar, remained in the smaller fragment —Mr J H Mummery read a paper on the Teeth of Echeneis (sucking fish) He stated that the lower jaw in occlusion projects far beyond the upper so that the anterior upper row of teeth shut almost entirely behind the whole of the teeth on the dentary bone in the lower jaw This upper row of teeth occupied the anterior border of the intermaxillary bones, projecting almost horizontally forwards The teeth were much longer than elsewhere in the mouth and of a very different shape They are flattened antero posteriorly, slightly expanded at the base narrowing upwards and expanding again into a curious spatula or hoe shaped crown strongly recurved and prolonged on the mesial side into a point. Behind the angle of the mouth there is a broken line of seven or eight teeth prolonged to the extremity of the inter maxillary bone These scattered teeth are of a quite distinct shape from those above described and resemble those in all other parts of the mouth—their shape is conical and they are very sharply recurved with sharp-pointed enamel tips Behind the spatula shaped teeth there is an imperfect scattered row of conical incurved teeth on the intermaxillary bones The vomer is thickly beset with teeth of the same description The teeth of the lower jaw occupy the dentary bone and the lingual bone, teeth being also present upon the inferior pharyngeal bones, the bronchial arches and the superior pharyngeals The lower teeth are arranged in four or five more or less distinct rows, the larger teeth occupying the front row and the smaller the inner row. The whole series of lower teeth is interrupted at the symphysis by an edentulous space about the width of two of the larger teeth. The lingual bone is covered with minute teeth arranged in lines radiating from behind forwards; these teeth are uniform in size and on microscopical examination are seen to have the same shape as the other teeth of the lower jaw. The inferior pharyngeal bones are crowded with minute teeth of the same shape and structure. On the concave surfaces of the bronchial arches looking towards the gullet are three or four rows of bony processes or tubercles arranged at regular intervals and covered with similar minute conical teeth. The armature of the mouth is completed by similar minute recurved teeth covering the superior pharyngeal bones. The mode of attachment is quite distinct from that described in any other fish of the family Scomberidæ. Each tooth—and the description applies to all the teeth in the mouth, including those upon the tongue and branchial arches—is attached to the summit of a special bone of attachment but is not anchylosed to it; it slides freely upon the bone and exhibits a modified form of hinge. The summit of this process of bone is in the form of a convex ring slightly raised on one side, resembling the ball of a ball-and-socket joint with the centre cut out leaving an elevated ring of bone. The base of the tooth is accurately adapted to this surface and slides easily upon it. A capsular ligament surrounds the whole. It will be seen that this arrangement would allow of a sliding movement of the tooth on the bone of attachment in every direction, but the ring of bone being slightly more elevated on the anterior aspect the motion is limited in this direction more than in the opposite, and the tooth can be bent over much more in the direction of its point than in any other direction; the strong ligamentous band being stretched no doubt serving to draw the tooth into position again.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—An ordinary meeting of this society was held in the Society's rooms at the West London Hospital on Jan. 6th, Dr. S. D. Clippingdale, President, being in the chair.—Mr. R. Lake read a paper on the Treatment of Laryngeal Phthisis based on a series of 160 cases. He did not enter into any discussion of methods of treatment which he had not tested. Clinically the cases could be resolved into groups each of which derived benefit from slight modifications of treatment. He particularly dwelt upon the advantages of intra-tracheal injections in cases of superficial ulceration and slight swelling, but admitted its uselessness alone in cases of greater severity. —The paper was discussed by the President, Mr. McAdam Eccles, Mr. B. James, and Dr. T. R. Atkinson.—Mr. J. R. Lunn read a paper on Two Cases of Double Optic Neuritis associated with Mastoid Disease. The first case was that of a boy, aged eleven years. The patient complained of giddiness and severe pain in the right ear from which there was a little offensive discharge and he appeared to be quite deaf. Behind the right ear was a fluctuating swelling. In two days the boy became delirious and then maniacal and the swelling behind the ear became larger. Under an anæsthetic a perforation of the membrana tympani was discovered through which a drop of pus oozed. The mastoid cells were trephined and were full of offensive, cheesy matter. The operation was necessarily extensive and, at the end of the excavation the pulsating lateral sinus could be seen. The patient made a good recovery and the optic neuritis quickly cleared up. The second case was that of a girl, aged fourteen years, who had suffered from ear trouble since an attack of measles and scarlet fever when seven years old. Behind the right ear was a fluctuating swelling and from the meatus flowed an offensive discharge. Deafness was marked. The right membrana tympani was perforated. Both optic discs showed signs of optic neuritis. The right mastoid process was trephined and much sclerosed bone had to be removed before the offensive caseous matter could be reached. This patient also made a good recovery and the optic neuritis soon disappeared.—The paper was discussed by the President, Mr. R. Lake, and Dr. R. D. Batten.—Dr. James Allan showed a specimen of Hypertrophied Prepuce.—Dr. Allan also read a paper on Twelve Cases of Tracheotomy for Laryngeal Diphtheria in Young Children with Nine Recoveries. The details of the operation were discussed and stress was laid on those points which he considered important. It was shown by reference to a case that tracheotomy sometimes gave the most brilliant results in apparently hopeless cases. The indications for the operation were discussed and the dictum "When in doubt operate at once" was quoted with approval.—The paper was discussed by the President, Dr. C. Gibbs, Mr. Lunn, Mr. R. Lloyd, Dr. T. R. Atkinson, and Mr. McAdam Eccles.

Reviews and Notices of Books.

A Manual of the Practice of Medicine. By FREDERICK TAYLOR, M.D., F.R.C.P. Lond. Fifth edition. London: J. & A. Churchill. 1898. Pp. 1002. Price 16*s.*

THE ever-widening area of medical science imposes no small task upon authors of text-books, especially when these works have gained the favour of the student world, for such popularity means the frequent production of a new edition and each such edition implies revision and the exercise of much judgment in curtailment here or expansion there, according to the direction in which medicine is growing. Dr. Taylor's manual is one which has deservedly obtained much favour, so that the appearance of a fifth edition within a comparatively short time is not surprising. We are glad, also, to observe that advantage has been taken of this to publish the book in a form more worthy of its character. The pages have been increased in size as well as the type. The author, too, has subjected the work to very thorough revision, rendering it most compendious and accurate and fully abreast of modern knowledge. Thus several additions have been made to the sections dealing with infectious diseases—e.g., in malarial fevers, dysentery, diphtheria, and cholera. The sections upon Diseases of the Nervous System are especially noteworthy for the systematic and exhaustive manner in which these affections are described and analysed. The diseases of the blood and of the ductless glands have given occasion for the introduction of much new matter and the account of diseases of the urinary organs is preceded by a useful account of the urine and of the characteristics of Bright's disease. It is enough to say that the book is one which thoroughly meets the needs of the student who will find it a reliable and useful guide to the medicine of to-day.

Ovariotomy and Abdominal Surgery. By HARRISON CRIPPS, F.R.C.S. Eng., Operator for Abdominal Sections to the Ward for Diseases of Women in St. Bartholomew's Hospital, &c. London: J. & A. Churchill. 1898. Pp. 624. 8vo. Price 25*s.*

FOR many years a great controversy has raged as to whether gynæcological operations should be performed by the gynæcologist or should be handed over to the general surgeon. Into the consideration of the respective merits of the rival claimants we do not now intend to enter; but as the large majority of the treatises dealing with ovariotomy and kindred operations have been written by gynæcologists it is of great interest to see these subjects treated by a general surgeon.

Mr. Harrison Cripps commences with a useful account of the anatomy of the abdomen and pelvis, and 12 excellent plates (for the most part coloured) of the structures described add materially to the value of this chapter. The author next proceeds to describe the preparations necessary for an abdominal section, and appropriately he gives an account of the arrangements in the operating theatre attached to the gynæcological ward at St. Bartholomew's Hospital. He considers that a skylight is essential, but it should not be made to open, for draughts and dust are necessary consequences and if hermetically closed the ropes and pulleys are also avoided. Even for opening side windows the author prefers a rod working in a brass attachment on the window frame, as likely to be less septic. The walls of the theatre are of alabaster and the corners are all rounded. The ceiling is of Parian cement painted with three coats of white paint and the floor is of marble mosaic and is made to slope to one corner where is a small trapped pipe. The top of the operating table consists of a shallow copper tray three inches deep covered with an inch-thick plate-glass slab. The tray is filled with water at 130° F., and the temperature falls but little even during a prolonged operation. The water tray will not permit the inclination of the table for the Trendelenburg position, and when this is desired an adjustable top is employed. Mr. Cripps has designed a semi-circular glass-topped table to carry the instruments; it fits round the operator as he stands on the right side of the patient and in addition to holding the instruments within easy reach "it has the advantage of being a polite method of preventing spectators from crowding over the operator's shoulder." Mr. Cripps has been so frequently asked during the last few years by old pupils as to the best methods of fitting up an operating theatre in accordance with modern views that the description of the theatre given in this volume is more detailed than it would otherwise have been. For all abdominal operations the author greatly prefers chloroform to ether, as he considers that the latter does not give such thorough relaxation of the muscles, and is liable to cause venous congestion, and especially because ether sometimes produces a severe and persistent bronchitis.

The chapter on the Diagnosis of Ovarian Tumours is decidedly good and should prove of value to those who have not had much experience. Often the diagnosis of an ovarian cyst is as simple as it can possibly be, but occasionally the tumour may defy all the diacritical acumen of the most experienced gynæcologist. In the operation of ovariotomy Mr. Cripps prefers an incision not exactly in the middle line, but a little to one side or the other of the tendinous raphe. By the bye, why does Mr. Cripps always write "tendonous"? He does not consider that a long incision is any more liable to lead to a ventral hernia than is a short incision and he therefore advises that it should be freely lengthened if necessary. After the removal of a cyst from between the layers of the broad ligament it is often recommended that the edges of the open capsule should be fixed to the borders of the wound. With this advice Mr. Cripps says that he cannot agree, as a cavity is thereby left which otherwise would not exist, and with this opinion we are inclined to concur. A difficulty is often experienced in inserting a Keith's drainage-tube into the deepest part of Douglas's pouch on account of the intestine occupying this cavity. Mr. Cripps gives a useful practical suggestion which we do not remember to have seen before. He advises that the tube should be passed down while the water used for flushing is still in the pelvis.

Silkworm gut sutures are in the author's opinion the best and they should be of the stoutness of salmon gut; they should be passed through the whole thickness of the abdominal wound and care should be taken that the sutures pierce the peritoneum not farther than one-sixth of an inch from the edge, for if a broad piece of the serous membrane be included it gets drawn up between the muscular surfaces and Mr. Cripps believes this to be often a cause of a local scar and a hernial protrusion. When a Keith's drainage-tube has been employed it is frequently a difficult matter to decide when to remove it. Intestinal obstruction may result from pressure of the tube and two cases of this are quoted; on the other hand the drain may be removed too early and that is especially likely to occur in cases in which any suppuration has been present.

Of the many complications which may supervene after an ovariotomy or other abdominal section vomiting is perhaps the most troublesome, and if it does not yield to treatment in two or three days the life of the patient is in imminent danger. The abdominal distension in itself is increasing the exhaustion and the chance of benefit from an exploratory laparotomy is indeed remote. Under these circumstances Mr. Cripps advises enterotomy performed through a small incision over the right iliac fossa. A fresh incision is preferable to reopening the original wound as septic infection of the peritoneum is less likely and it is more easy to reach a portion of the small intestine near the ileo-cæcal valve.

A good account is given of Cæsarean Section and the author expresses himself strongly in favour of applying two rows of sutures, one deep and the other superficial, through the uterine wall. Champneys's method of preventing a future pregnancy is recommended; it consists in ligaturing a loop of the Fallopian tube and cutting off the knuckle on the distal side of the ligature.

It is a necessary consequence of the conditions under which this book was written that we are given an account of abdominal hysterectomy while the vaginal operation is not described. The author expresses himself as very sceptical in regard to deaths after the third day in this operation which are put down to shock or exhaustion; he considers that in all probability they are the result of sepsis. Chapters on Extra-uterine Fœtation and Peritonitis follow. In the account of Gastrostomy Mr. Cripps declares that he sees no necessity for the elaborate operations which have been devised in recent years, for he finds no difficulty in preventing the escape of gastric juice by using a small pad which he has invented. It consists of a flat rubber disc a little larger than the opening into the stomach; it is pierced by a double thread and is introduced into the stomach by being rolled up. When it is desired to close the gastrostomy opening this is drawn forwards and the threads are tied over a little roll of lint containing a glass rod.

The author advises an operation in appendicitis even after the first attack if a persistent swelling can be felt in the iliac region, and in all cases with recurrent attacks. In cases in which the large bowel is obstructed and yet the exact cause cannot be ascertained Mr. Cripps urges that an incision in the left iliac region offers the best chance of ascertaining the cause and, if necessary, of performing a palliative colotomy.

The author appears to be much prejudiced against Murphy's button, but the good results which have undoubtedly been obtained by its use by many operators go far to neutralise the argument drawn from the 4 fatal cases which Mr. Cripps quotes.

Other chapters deal with Abscess and Hydatids of the Liver and with Removal of the Spleen, but space forbids a detailed consideration. Mr. Bruce Clarke contributes a chapter on the Surgery of the Kidney and, very good though the article is, it is impossible to deal adequately with so important a subject in 32 pages. Mr. C. B. Lockwood is responsible for the account of the Radical Cure of Hernia; it is very satisfactory and we would especially praise the diagrams. Mr. Cripps tells us that he has performed nearly 1000 abdominal sections and he has given in an appendix abstracts of the notes of 183 of the most interesting of these; they will serve well to illustrate the descriptions and enforce the teaching contained in the body of the work. We have read the book with pleasure, for it is the frank expression of the individual views of a surgeon whose wide experience must make his opinions worthy of careful consideration even if not always of full acceptance.

Diseases of Women. By E. C. DUDLEY, A.M., M.D. London: Henry Kimpton. Pp. 636, with 422 Illustrations (of which 47 are in Colours) and 2 Coloured Plates. 1898. Royal 8vo. Price 21s. net.

THE output of gynæcological literature in America during the last few years has been very large, and in Dr. Dudley's book we have the latest addition to the already numerous

American text-books upon Diseases of Women. The author has departed with advantage from the usual classification into diseases of regions and has arranged his work upon a pathological basis, the book being divided into five parts as follows: I., General Principles; II., Inflammations; III., Tumours, Malformations, and Tubal Pregnancy; IV., Traumatisms; and V., Displacements and Pelvic Massage. It is of course quite true, as he contends, that dysmenorrhœa, amenorrhœa, menorrhagia, and sterility are symptoms and not diseases, but we doubt whether the fact that there is no collective account of any of these conditions and that we are referred to the index for their consideration will commend the book to students or practitioners seeking information upon these subjects. The result of reading this work is to strengthen the impression that the gynæcologist is becoming daily more and more of a surgeon and less and less of a physician. A very large part of the book is taken up with the account of various operations and in some instances an undue amount of space has been allotted to matters which we, in this country at any rate, are inclined to regard as of rather secondary importance. For example, the description of the operation of trachelorrhaphy occupies some twelve pages while ovariotomy is dismissed in five, two of which are almost entirely occupied by drawings of instruments. There is a similar want of proportion about other parts of the book which detracts from its value, although many of the chapters are excellent not only in the matter they contain but also in the manner in which it is treated.

The first part of 140 pages is taken up with General Principles, Antiseptic and Aseptic Surgery, and the technique of minor and major operations. This part concludes with a chapter upon the Relation of Dress to the Diseases of Women. The author calls attention to the fact that the average woman wears seventeen layers of dress material round her waist constituting if joined end to end a bandage 34 ft. long. In the hygienic form of dress which he advocates these seventeen layers would be reduced to five, but we doubt whether it is of any use to attempt to convince the average woman in a matter of this kind subject as she is to the dictates of fashion. We must confess that we do not regard the illustrations as wholly convincing; for instance, the young woman who is represented in a composite photograph with and without her stays has a much better figure with than without them, an inference which, we gather, the author would not wish us to draw.

Part II., upon Inflammations, is well arranged; the plan of considering salpingitis, ovaritis, and pelvic peritonitis in close proximity to one another is a good one and calculated to impress upon the reader their close etiological relationship. Part III. treats of Tumours, Tubal Pregnancy, and Malformations. The chapters upon Fibroid Tumours and Carcinoma are good and clear, but the account of tubal pregnancy is somewhat disappointing. Part IV. is devoted to Traumatisms. The author expounds his views upon tear of the perineum in some detail, and describes with numerous clear diagrams and figures the operation which he recommends and practises for this condition. Part V. contains an account of Displacements of the Uterus and their Treatment, especially the treatment by operation. Under the treatment of chronic inversion of the uterus we notice that no mention is made of by far the best and most successful mode of treatment—continued elastic pressure with Aveling's repositor, or of the method of performing posterior colpotomy and dilating the constricting ring with the fingers in cases where elastic pressure fails.

The book concludes with a good account of pelvic massage, a mode of treatment which has found little favour in this country. There are some 400 illustrations, many original and others borrowed. Some of these are far from good and it seems a pity at the present day to reproduce figures which give a very poor idea of the conditions which they are intended to represent, such as the picture of a multiple myoma on page 310 or Fig. 172 representing a stage in the operation of myomectomy which is not only a poor drawing but anatomically incorrect. Here and there are some evidences of haste, such as "Cullenworth" for Cullingworth, while Dr. Auvard would hardly recognise either himself or his "Formulaire Gynécologique Illustré" as "Auvard: Illustrated. Falle aus der Frauen Praxis." Dr. Dudley's book has many points of merit but we doubt whether in its present form it will find any permanent place in the gynæcological literature of this country.

A Manual of Otology. By GORHAM BACON, A.B., M.D., Professor of Otology in Cornell University Medical College, New York; Aural Surgeon, New York Eye and and Ear Infirmary. With an Introductory Chapter by CLARENCE JOHN BLAKE, M.D., Profesor of Otology in Harvard University. London: Henry Kimpton. 1899. Price 9*s*. net.

THIS book of 385 pages is well printed and written, and it forms yet another contribution to the literature of aural diseases. Its size prevents it laying claim to be considered an exhaustive treatise on the subject but it contains much that is good and useful. Due space has hardly been allotted to matters of importance. Thus the treatment of aural exostosis occupies one short paragraph and the description of the treatment of nasal polypi complicating deafness is so brief as to give a novice a very inadequate idea of the difficulties surrounding these cases. The author condemns operations for chronic catarrh, such as excisions of the ossicles, and states truly that no s[illegible]ions can be free from the risk of making patients w[illegible]ey were before. The chapters on Sinus Thro[illegible]ebral Complications of Middle Ear Disease are [illegible] in the book. The index is hardly extensive [illegible] instance, no direct reference is made in it to th[illegible]eign Bodies in the Ear. The work is well [illegible]ough most of the anatomical plates are ta[illegible] Gray's Anatomy.

The Cold Bath Treatment of Typhoid Fever. By F. E. HARE, M.D. London: Macmillan and Co. 1898. Pp. xii and 196. Price 6*s*.

DURING his tenure of the post of resident medical officer of the Brisbane General Hospital the author of this work had ample opportunity for testing the value of therapeutic measures in fever; and on the particular subject of which this volume treats it would be difficult to find what, without disparagement, may be termed a therapeutic experiment carried out on such a scale and under such rigid conditions as obtained in this instance. The introduction of hydrotherapy into the treatment of fever dates from the time of Currie, but it was left for Brand of Stettin to advocate the systematic use of cold baths in typhoid fever upon very definite and well-reasoned grounds. His main argument was that early recourse to this treatment robbed typhoid fever of much of its dangers, influencing even the character of the specific disease; and although others who have followed the practice may not have admitted so much there has been a general consensus as to the benefit derived from the measure in subduing the intensity of the febrile process, the long-continued duration of which is one of the gravest risks which the subject of typhoid fever encounters. The method of the application of the bath, the rules for its employment, the frequency with which it is necessary to apply it, and the contra-indications that prevent recourse to it—these and every other subject cognate to the treatment are fully and clearly stated by Dr. Hare whose results are worthy of the most attentive study. It is impossible to read his experiences without being convinced of the efficacy of the treatment and that not merely in the lessened mortality which he proves to follow its employment but from the striking manner in which most of the more serious symptoms are controlled. The work is all the more valuable because it affords a comparison between series of cases in which the treatment was purely expectant and another series in which cold bathing was systematically followed. The numbers too are large enough to satisfy the most captious of critics and we have no doubt that the publication of this book will lend an impetus to the more systematic adoption of the practice in our fever hospitals We do not think any useful purpose will be served by culling statistics from the volume before us The book should be thoroughly and carefully perused by all who have the charge of fever patients It might be urged that alternative antipyretic measures receive but little notice, but we venture to think that no such measure has been proved to be so efficacious as that of which this volume treats

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JOURNALS,

The *Practitioner* for January appears in an enlarged form The Editorial Month includes among other interesting matter a striking statistical diagram showing death rates from small pox in Prussia Holland, and Austria In the two former countries comparisons are shown between the years when compulsory vaccination did not exist and those in which it did In Austria compulsory vaccination does not exist, and the small pox death rate is marked In the original articles Professor Clifford Allbutt contributes an admirably written article on Tuberculosis Mr Treves recounts an interesting case of Jaundice of sixteen years' standing treated by operation, and Mr Edmund Owen has a useful paper upon Conical Stumps The Hero of Medicine is William Hunter and the Medico Literary Causerie deals with "Doctor Therne"

Die Therapie der Gegenwart Edited by Professor G. KLEMPERER Berlin —This journal first appeared forty years ago, but this year, owing to the resignation through ill health of the former editor, Professor Löbisch, it enters on a new phase of existence under the guidance of Professor G. Klemperer It is intended to deal primarily with practical therapeutics, but it will also contain articles and abstracts on closely allied subjects, such as experimental therapy The editor is to be congratulated on the contributors whom he has obtained for the first number of the new series Professor Virchow writes on General Therapeutics, Professor E von Leyden on Nourishment in Acute Fevers; Professor Senator contributes Remarks on the Hygienic and Dietetic Treatment of Chronic Diseases of the Kidney, with especial reference to Climatic Treatment, Professor Schrotter furnishes a paper on the Therapeutics of Arterio-sclerosis, Professor A Fränkel writes on the Treatment of Pneumonia with Large Doses of Digitalis and Professor Eulenburg on the Work Cure (*Arbeitskuren*) in Nervous Diseases In addition abstracts are given from various publications

The Journal of Physiology Edited by MICHAEL FOSTER, F R S, and J. N LANGLEY, F R S Vol XXIII No 4, Nov 25th, 1898, price 5s, and No 5 Dec 30th, 1898, price 4s —The contents of these numbers are as follows —In No 4 1 Dr F Gowland Hopkins and Mr W B Hope of Guy's Hospital on the Relation of Uric Acid Excretion to Diet, with 10 figures 2 J H Elliott, M B, of Toronto on a New Proteid Reaction This consists in the application of dilute sulphuric acid to proteids which stains them of a blue violet colour when allowed to concentrate slowly 3 Dr Harry Campbell on the Resistance to the Blood Flow 4 Professor E A Schäfer on the Alleged Sensory Functions of the Motor Cortex Cerebri 5 Dr William J Smith Jerome on the Relation of the Degree of Acidity of the Urine and the Percentage of Uric Acid therein contained to the Precipitation of the Latter in the Form of Uric Acid Gravel 6 Professor J Burdon Sanderson the Electrical Response to Stimulation of Muscle, being the second part of the essay on the Monophasic and Diphasic Variation of the Sartorius, with a plate and eleven figures in the text The first article in No 5 of the Journal is by W B Hardy, M A, of Caius College, entitled Further Observations upon the Action of the Oxyphil and Hyaline Cells of Frog Lymph upon Bacilli, with ten figures in the text 2 Dr Ralph Stockman and Dr E D W Greig on the Action of Arsenic on the Bone Marrow and Blood, with a plate 3 Dr Charles J Martin on Cortical Localisation in Ornithorhyncus, with four figures in the text. 4 Dr M S Pembrey and Dr B Nicol on Observations upon the Deep and Surface Temperatures of the Human Body, with two figures 5 Dr J N Langley on Inhibitory Fibres in the Vagus for the End of the Œsophagus and the Stomach To this number are appended the Proceedings of the Physiological Society

The Quarterly Journal of Microscopical Science Edited by Professor E RAY LANKESTER, Professor ADAM SEDGWICK, and Professor W WELDON. New Series, No 163 Vol XLI Part 3 London, J & A Churchill Price 10s —The articles contained in this part are five in number and are as follows 1 The Development of the Pig during the First Ten Days, by Richard Assheton, M A, with four plates 2 The Structure of the Mammalian Gastric Glands, by R R Bensley, B A, M B, of Toronto, with a plate 3 On Certain Green (Chlorophylloid) Pigments in Invertebrates, by Marion Newbigin, D Sc, of Edinburgh, with two plates 4 *Note on a* (Stomatopod?) Metanauplius Larva by J J Lister, M A, of Cambridge 5 On the Nephridia of the Polychæta Part 2 Glycera and Goniada, by Edwin Goodrich, B A, of Oxford, with four plates

The Grant Medical College Magazine —This is the journal of the Grant Medical College Gymkhana and it reached its second number in December, 1898 The most noteworthy article in the number before us is a supposed case of Moveable Kidney reported by Mr K M Pardhy All the symptoms pointed as surely as symptoms can to an abdominal tumour being a floating kidney, but when an exploratory incision was made for the purpose of fixing the kidney if it was floating the kidney was found in its proper place and the tumour turned out to be a portion of the ileum affected with tuberculous ulceration Mr B R Khandekar reports a case of Tetanoid Spasms in a woman, aged twenty three years due to intestinal worms

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THE VACCINATION ACT —The Kingsbridge (Devon) Board of Guardians at their meeting on Dec 31st decided to support the petition to Parliament for the repeal of the new Vaccination Act —The Cirencester Board of Guardians have passed a resolution protesting against the new Vaccination Act —The Bedminster (Bristol) Board of Guardians at their meeting held on Jan 3rd decided to petition Parliament to repeal the new Vaccination Act —The Pontypridd Board of Guardians at their meeting on Jan 4th decided to petition Parliament to repeal the new Vaccination Act

THE ROYAL HOSPITAL FOR DISEASES OF THE CHEST —Sir Squire Bancroft with a view to helping the Royal Hospital for Diseases of the Chest, City road, in its work, has promised to tell the story as arranged by himself from the author's text of Charles Dickens's "Christmas Carol" at the St. George's Hall, Langham place W, on the afternoon of Thursday, Jan 19th Mr Hope Morley, the treasurer of the institution, will preside and tickets, which are 10s, 5s, and 2s 6d each, can be obtained from the secretary.

THE LANCET.

LONDON: SATURDAY, JANUARY 14, 1899.

THE promoters of the Midwives Bill have lost no time in drafting a Bill (now called "A Bill to Promote the Better Training of Midwives and to Regulate their Practice") intended to meet the views of the General Medical Council, as expressed with practical unanimity in the report of the Council at its April meeting of last year, and discussed afterwards at the conference between a committee of the Council and a deputation from the Midwives Bill Committee. This Bill bears on the face of it new features, and comes before the profession and will come before Parliament with a claim to consideration which its predecessors lacked—the claim that it has been shaped more or less to accord with the views of the General Medical Council. We propose to inquire at this stage how far the Bill answers to the new intentions of its framers and is any guarantee that they will endeavour loyally to secure the enactment of those principles which were not embodied in their previous Bills, and the absence of which involved the opposition of the General Medical Council. And the support of the General Medical Council will, we take it, be entirely conditional on this loyalty. The innovations in the Bill must be supported in Parliament by its promoters as of the very essence of the Bill and without which it must not pass. Nor does it follow that because the Bill meets the requirements of the General Medical Council it will be a grateful measure in every detail to the medical profession. It is not the authority of *the General Medical Council that is at stake or, for that* matter, the interests of the medical profession, but the lives of women; and, as we have said on a former occasion, the proposed legislation will lack all justification if it continues to allow an ignorant and perhaps drunken and incompetent woman to hold herself out as a midwife. Such behaviour must be penalised.

The essential views of the General Medical Council as put forward in the report of the Midwives Bill Committee, adopted, were:—

(*a*) That every woman *engaging for gain in practice as a midwife* should be subjected to legal regulation and control.

(*b*) That the mere prohibition of titles without making illegal the practice of midwifery by unauthorised persons was not a sufficient safeguard to lying-in women.

(*c*) That all conditions and regulations framed by a Midwives Board for the Control of Midwives should be submitted to the approval of the General Medical Council and the issue of such conditions and regulations when so approved by the Local Government Board to the local sanitary authorities.

(*d*) That every woman before beginning to practise as a midwife in any district should obtain the licence of the local sanitary authority of the district, renewable annually and revocable any time on infringement of regulations.

(*e*) That any unlicensed woman, whether calling herself a midwife or not, who, not being registered under the Medical Acts, practised as a midwife for gain should be liable to a substantial penalty.

(*f*) That evidences of character, training, and experience should be forthcoming in case of applicants for licences.

(*g*) That licensed midwives should be under obligation (by regulations) to secure immediate qualified medical assistance in every case presenting symptoms of difficulty or abnormality.

Another requirement of the General Medical Council was that direct provision should be made in the Bill to reimburse the Council for any expenditure incurred in duties under the Bill. This has been ignored.

These were the principles which, in the opinion of the General Medical Council, should underlie any legislation on the subject of midwives. Their essence is this: that midwifery is a part of medical practice, calling for full knowledge of the principles of medicine and surgery—that there must be a clear recognition of the distinction between a mere midwife and the medical practitioner and that she is to act in midwifery an entirely subordinate part, with sharp limitations to be defined in the regulations; and that any violation of the regulations will render her liable to removal from the roll of midwives.

How far does the new Bill embody these principles and secure their recognition in the future? On the whole the Bill meets the requirements of the Council. Existing midwives will be required to show not only that they have attended cases but to produce evidence of character and of being in *bonâ fide* practice as midwives. Mrs. GAMP was in *bonâ fide* practice, but the necessity of adducing witnesses to character would exclude her from the new roll. The Council, however, asked for evidence of training also, but the Bill does not provide for this. Secondly, obstetric assistance may be rendered by anyone in an emergency, but the habitual practice for gain of midwifery by an unlicensed woman not a registered medical practitioner will expose the offending person to a fine of not more than £5, as the false use of titles also will. Thirdly and fourthly, licensing is substituted for registration, renewable annually, and besides the licence of the Midwives Board a midwife must get a certificate from the local sanitary authority in whose area she means to practise. The constitution of the Board is altered for the better. The Midwives Board of this Bill will consist of only 6 members, of 4 registered medical practitioners appointed respectively by the Royal College of Physicians of London, the Royal College of Surgeons of England, the Society of Apothecaries, and the Incorporated Midwives' Institute, and 2 other members to be appointed by the Privy Council. The claim of the body which has no professional knowledge to have as much representation on the Midwives Board as the medical corporations is one to which we demur, however it is all for good that the Board should be so much smaller. It will be at least predominantly a medical body and its regulations will be subject to the approval of the General Medical Council. We cannot, however, regard it as satisfactory that so much is left to the discretion of the Midwives Board. Such vital matters as the distinction between the functions of a midwife and those of a medical man, the obligation of a midwife to send for a medical man on the occurrence of anything unusual, and the obligation of the local sanitary authority to make such arrangements as will secure the ready help of a registered practitioner should be, and we hope still will be, matters of direct provision in the Bill. The opportunity of the presence of such a Bill in Parliament should not be lost also in another direction. A specific clause to make it illegal for a midwife to certify still-births should be inserted. The promoters of the Bill anticipate that the modifications introduced to meet the views of the General Medical Council will excite much opposition both in and out of Parliament. It may be so, but we trust that the Government will refuse to be any party to a Bill which does not include these modifications. There will be other opportunities of discussing the Bill more in detail which we shall take as they arise.

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THE reports which have reached us of the severe epidemic of influenza now raging in New York and the undoubted existence of outbreaks of "*febrile catarrh*" (to use a term sometimes employed) now attacking whole families simultaneously in this country have again drawn attention to the nature and means of extension of this disease. Influenza, although in itself not usually a serious complaint, yet in virtue of its complications and sequelæ may prove a most disastrous one and not unnaturally the prospect of another pandemic such as occurred in 1889 and 1890, or of further local epidemics such as have since been experienced, gives rise to no little popular alarm. The name "influenza" seems to have a strong attraction for some people. Every ache and pain, no matter where located and whether accompanied by fever or not, is at once put down as "influenza"; every headache, every coryza, every sore-throat, every attack of gastro-enteritis, from whatever cause is promptly self-diagnosed as "influenza," and when the practitioner arrives upon the scene he will be expected to fall in with this view, and there is a great temptation to do so. The disease is so protean in its forms that it is no cause for surprise that the patient arrives at the above conclusion. A little investigation, however, may show that many of the so-called "gastric cases" can be ascribed to errors in diet, whilst the general history of other cases would indicate that similar attacks of headache, sore-throat, or coryza have occurred at intervals throughout the patient's whole lifetime, at any rate many years previously to 1889, at which time the modern history of this complaint as regards England begins. A certain number of cases characterised by rise of temperature with some amount of general malaise are frequently met with and were encountered long prior to 1889, but there is no evidence that these are influenzal in nature. For want of a better term the condition is described in text-books as "febricula"; the symptoms disappear in a few days and the patient recovers. At the same time such maladies should be carefully watched in case they should be mild cases of influenza and evidences of complications should be at once investigated.

The publication of the fifteenth volume of the "Twentieth Century Practice of Medicine" comes opportunely for it contains a most valuable article on Influenza by Dr. DITMAR FINKLER. The article forms, indeed, one of the best monographs on influenza which we have yet met with. In reference to the remarks which we have already made we quote the following from Dr. FINKLER'S observations on "Local Epidemics." "I am inclined to accept the view of LEICHTENSTERN that there exists a pandemic influence caused by PFEIFFER'S bacillus and also an epidemico-endemic influenza of identical nature, which develops after the pandemic infection has run its course, being caused by the germs left by the latter. ..... The occurrence of various forms of catarrhal fever, which are often called grippe or influenza by physicians and laymen, is something altogether different. Sporadic cases of coryza and bronchial catarrh should never be mistaken for influenza, although the symptoms of influenza may here be imitated in an exquisite manner. I have examined whole series of such cases, but have never been able in a single instance to demonstrate PFEIFFER'S influenza bacillus."

The question, then, arises—Can the diagnosis of influenza be based on the microscopical finding alone of the influenza bacilli? Dr. FINKLER maintains that under certain conditions this question may be answered affirmatively and he states that anyone who has occupied himself largely with these bacilli will rarely err when he sees them in a sputum preparation. He adds, however, that it is most desirable to establish the identity of the bacilli by culture if every doubt is to be excluded, for this method leads to the certain demonstration of the influenza bacilli often more rapidly than does the microscopical examination. According to these investigations doubtful cases of influenza should not be diagnosed as such unless a bacteriological examination has demonstrated the presence of PFEIFFER'S bacillus, following the plan now uniformly adopted in uncertain cases of pulmonary tuberculosis and diphtheria. Such a course would prevent the indiscriminate diagnoses now occasionally made according to the particular physician's own ideas of influenza rather than by the recognition of a disease having definite characteristics. We have not been able to discover in Dr. FINKLER'S paper any mention of an apyrexial form of the disease, and we believe such cases to be extremely rare even if they exist at all. We are aware that in the opinion of some physicians they do occur but we are not aware of the grounds upon which the statement is made, nor should we be satisfied with the reasons unless a bacteriological examination had corroborated the diagnosis.

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ANY article by Professor J. P. MAHAFFY is pretty sure to be worth reading. We may not always agree with him or think his tone particularly judicial; but he is always pithy and piquant, he has something to say that is individual and characteristic, and he speaks his mind with an undeniable frankness. All these qualities are conspicuous in his article in the *Nineteenth Century* upon "How to Prevent Cramming." He refers more specifically to Irish secondary education, but his remarks have a wider application than their immediate object and may not be without a certain suggestiveness in relation to the teaching of medicine.

What is cramming? It may be roughly defined as the art of preparing candidates to pass their examinations successfully without having really assimilated the knowledge imparted to them and made it a permanent part of their intellectual life. The teacher trains, the crammer imparts information which will pay in the examination room. As Professor MAHAFFY says, "The teacher makes the permanent improvement and development of his pupil the real end or object of his work, in aid of which competitions, prize lists, and exhibitions are merely a test and a means. The crammer makes the prize list his real end and the pupil only the means whereby he may attain honour, money, success for himself, and if he can show a splendid list of examination successes he cares not what becomes of his pupils in after-life. He has done his best with them so long as they were preparing for a special examination. He has played the game of competition and has won. He is not concerned about the rest." This is a somewhat extreme statement of the case, and we would prefer to believe that the average crammer retains some small modicum of the *milk of human kindness* and is not absolutely indifferent to the future welfare of his pupils. But his radical vice is the preferring of immediate gain to real development of intellect and character and of appraising the knowledge not for its inherent worth but just in so far as it can be made to pay. The question at once arises whether examinations properly conducted by able and conscientious men cannot be so arranged as to distinguish between crammed knowledge and real knowledge, between the candidate who has been simply drilled to answer with mechanical accuracy and the candidate who has fully assimilated his materials and adjusted them to his total mental equipment. This is the crucial question upon the answer to which everything depends. "It is impossible to abolish examinations. They are, in the first place, a distinct test, though a rude and insufficient one, of good and bad teaching. In the second place they are the *only* test which the public understands and in which therefore it has confidence. We must therefore not attempt to abolish examinations, but *to reform them* so as to leave good teachers the maximum of liberty, and give weight to quality and not variety of answering." The proper conduct of examinations is one thing and *a most important thing, but Professor* MAHAFFY also lays much stress upon the proper inspection of schools by independent inspectors, entirely removed from local, sectarian, or other jealousies. In the medical world something has been done to secure inspection of examinations, but very little has been done to secure inspection of academic and clinical teaching. We believe that much remains to be accomplished in this regard and that the best results might be fairly expected to follow from proper inspection of the medical student's training on both its sides.

Some of Professor MAHAFFY'S remarks upon the teaching of modern languages have an interest for medical readers, inasmuch as some knowledge of this subject is required for the medical curriculum in most of the universities. "We learn the classical or so-called dead languages for the sake of their matchless literature and for the sake of their logical and strict grammar; we learn the modern for use, for speaking, writing, reading them, and understanding them when spoken. The use of Latin grammar is to learn grammatical principles which can be applied to many languages; the use of German grammar is merely to understand German and no one would think of studying it for *any* other purpose. Hence in the learning of modern languages grammar should take a very subordinate place and *use* should be the object always in view." This is, we believe, true and important. The much-weighted medical student cannot in these days spare time to acquire a thorough grammatical and philological knowledge of French and German. But if he aspires to any career higher than that of ordinary general practice it is most important for him to be able to read these languages with facility. Learning to speak them, though most desirable, is, on the whole, a secondary matter. It is not everyone who travels; and even in the case of travellers it is astonishing to find the extent to which English has become a sort of *lingua franca* upon the Continent and how little real inconvenience is felt by many who travel with the command of no language but their own. No doubt this is to be deprecated and is something of a slur upon anyone who has had a liberal education, but our point is that for practical purposes what the aspiring medical student needs in this department is *simply* the power to read French and German with ease and readiness, so that the very important medical literatures of those countries may be accessible to him without the aid of translations. Upon the whole, we conceive that medical education is much less open to the charge of cramming than that of most other departments. Some of the subjects can hardly by any possibility be crammed. We once knew a very clever student who detested dissecting and who yet contrived to pass brilliantly in anatomy by means of *an* elaborate system of mnemonics devised by himself; but we imagine such cases are excessively rare. To cram clinical knowledge is almost a contradiction in terms. The stress now *thrown* upon practical laboratory work, the tendency to discourage systematic lectures and to rely more upon bedside teaching, the discrediting of mere book knowledge,—all this tends to the confounding of the medical crammer. Examining students in mere "tips," attaching importance to names rather than things, allowing the opinions of examiners—as opposed to recognised scientific doctrine—to have full play,—these things still find a place at some medical schools, and create a function for the crammer, but it cannot be too much insisted upon that *such* practices are opposed to all sound principles in medical education and can be persisted in only from ingrained prejudice or deliberate wrong intention.

SINCE we last commented in these columns on the cases of COLLINS and WHITMARSH the sentence of the latter has been fixed by the Home Secretary at penal servitude for twelve years as against the seven years allotted by Mr. Justice GRANTHAM to COLLINS, and the sentence of death passed by Mr. Justice PHILLIMORE in the later case of WARK has now been reduced to one of penal servitude for three years. The term meted out to the last-named criminal seems to fairly satisfy the exigencies of the case. It may seem severe in comparison with the sentence upon COLLINS and so may the fate *of* WHITMARSH, but it must be remembered that the Home Office has its own precedents to follow and cannot allow itself to be influenced by the views of a particular judge in another case than that under its consideration. No one conversant with the practice in such matters can have seriously expected a free pardon to be granted in a case in which a question of fact had been carefully tried before a judge and jury and where no additional evidence has been since adduced. Many of those who have agitated with a view to the immediate release of WARK and have been surprised to find their petitions ungranted must have forgotten the sources of information at the command of a Home Secretary that place him in command of particulars which are not made public in a court of law but which rightly influence his decision. Many, too, must have failed to consider how important it is that the verdict of a man's twelve peers, even if adverse to him, should not be overridden by the opinion of any official however highly placed, unless, as we have said, the official has evidence before him that was not before the jury tending to prove innocence. It seems to us that so far from the Home Office being called upon to exercise its powers more markedly than it has done far too much is now expected from it and done by it in such cases as these.

In this connexion we note that it was at Liverpool, where the WARK case was heard, that the last trial took place in which the sentence of death passed upon a criminal abortionist in England was carried out. This was in 1875, the man being an unqualified practitioner of the name of HEAP. The late Baron POLLOCK tried the case and he expressly said that the facts, if proved, constituted murder and nothing else, while the law has, we believe, been similarly laid down in all cases of the same nature until the present year. On its being found that HEAP was to be hanged efforts were made to obtain a reprieve, and the foreman of the jury who had recommended him to mercy made a public statement that had the jury known that the capital sentence would be carried out they would have found a verdict of manslaughter. The judge, however, had held out no hope of mercy, there was a previous conviction for abortion against HEAP, and the Home Office was inexorable. In the years following the case of the man HEAP there were convictions for similar crimes (there had been none for some time before that case)—that of CORNELIUS ASHER, a herbalist at Leicester, in 1876; that of ANN CARTLEDGE, a midwife, in 1877; another of a woman in 1879; *two* separate cases in 1880 (the two COLMERS and an unqualified practitioner named HAYWOOD), and the case of a chemist named HOLLIS in 1882,—in all of which reprieves followed. In all of these cases, in spite of the recent precedent of HEAP'S case, the death sentence was not carried out and in them, and in all such cases since, the Home Secretary, and not the judge who tried the case, has fixed the penalty for the crime. This crime has been, technically, murder, the jury only convicting because ignorant that a death sentence would be passed or expecting confidently its commutation. The difficulty of persuading the jury of even the technical guilt of murder on the part of the prisoner is shown by the way in which the law has been laid down in the three recent instances already referred to. According to the Attorney-General in the COLLINS case (and apparently the judge took the same view), "if the act done was not in itself of necessity dangerous then the jury might find a verdict of manslaughter and not murder." According to Mr. Justice BIGHAM in the WHITMARSH case, "If the jury could bring themselves to think—he did not see how they could—that though the prisoner might have administered the injection yet nevertheless as a reasonable man he could not have contemplated that it would result in death, it was competent for them to say that he was not guilty of murder but that he was guilty of the lesser crime of manslaughter." According to Mr. Justice PHILLIMORE in the WARK case "if a person committed any felony on the body of anyone to whom thereby death resulted he was guilty of murdering that person."[1] It is in consequence of such conflicting and irreconcilable enunciations of the law that we have urged the desirability of legislation with regard to cases of what is sometimes known as "constructive murder," a convenient term against the use of which Sir FITZJAMES STEPHEN once emphatically protested. Failing this we have suggested the possibility of a uniform practice of indicting for manslaughter, except perhaps in such exceptionally heinous cases as may possibly arise. The object of such legislation or practice would be to produce consistency and prevent the possibility of a criminal being acquitted through sympathy or prejudice. It is quite another matter to urge that a jury's verdict should be rendered wholly ineffective where it simply amounts to a finding that whatever crime the acts committed involve the prisoner was privy to it. To do this would be highly undesirable, even if the judge trying the case admittedly assumed a responsibility in directing the jury from which some of his colleagues would have shrunk.

Annotations.

"Ne quid nimis."

BRITISH ACTION AS TO PLAGUE

WE are glad to be able to announce that the action taken by the British Administrator of our East African *possessions* was suspended on Jan. 8th and this we may assume means that it was cancelled. The mere fact that the governor of a British possession should repulse a vessel on which there existed an infectious disease such as plague and order her out to sea to return to the port whence she came, without so much as seeing that over 1000 people on board should run no further risk of infection and should not remain a single day without ample medical appliances and *provisions*, was an act which we did not hesitate to style "astounding." Even if all these precautions could possibly have been taken the action would have been wrong in principle and thoroughly bad in practice; and the only plea in extenuation of having acted thus in a state of panic would be that which should properly be regarded as inexcusable—namely, an utter neglect of measures of preparation in the case of a port which for over twelve months has been in constant communication with plague-infected ports of India. The final decision with regard to the *Bhundara* is not yet made known, but we learn from Karachi that there has for many days past been no further case of plague on board. Hence such elementary sanitary organisation as must surely exist in a country which is constantly shipping railway employés from Karachi and Bombay, and where large works under British supervision are being carried on, ought to suffice to control a disease which has for two years been kept from spreading from the native to the British quarters of even a great city such as Bombay. The Venice Convention lays it down that no country accepting its provisions shall be without a port organised to carry out the terms of the convention. This means that no such country shall have even the excuse for repelling a vessel, and this country cannot afford, even in East Africa, to revert to an attitude of a past generation which was characterised by ignorance as to the meaning and significance of infectious disease.

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[1] We quote the dicta of the *Attorney-General* and of Mr. Justice Bigham from the *Times* reports of these cases, while the words of Mr. Justice Phillimore are as given in the *Liverpool Daily Post*.

THE CENTENARY FESTIVAL AT ST. PETERSBURG.

THE brief account of the centenary of the Military Medical Academy given in an annotation in THE LANCET of Jan. 7th extended to the ceremony of Dec. 30th, 1898, at which the congratulatory addresses of the delegates were presented. On the evening of that day a ball was given and some of the delegates afterwards drove down the Neva in troikas to spend the very early hours of Saturday morning (Dec. 31st) in a well-known and popular cave of harmony. On the same day at mid-day an opera (*Le Prince Igor*) was given to a crowded audience at the Imperial Theatre. An interesting feature of this performance was that the opera was composed by Dr. Borodine, a late professor at the Medical Academy. In the evening a banquet was given. At this splendid entertainment the French delegates were to the right of the President, the Germans to the left, the British representatives being opposite to them. On Sunday (Jan. 1st, 1899) a visit was paid to the large non-military hospital associated with the Imperial Academy and to the Physical Laboratory over which the delegates were shown by the kindly Dr. Danilevsky who showed many experiments with liquid air and demonstrated an extremely clever apparatus by Zeiss by means of which images of small opaque bodies could be perfectly reproduced upon the lecturer's blackboard or screen. The chief part of Monday was spent in a tour of inspection through the immense establishment on the islands at which all the instruments, splints, dressings, and apparatus are made for the army. This was followed by a luncheon at which speeches of congratulation were made. The chair was occupied by Dr. Remmert, the chief inspector of the imperial army. On Wednesday, Jan. 4th, a miniature review was held by the Czar in an enormous riding school, and on its conclusion the delegates had the great honour of being presented one by one to his Imperial Majesty. Some of the French delegates whose return from a hurried visit to Moscow was delayed by a snowdrift were so unfortunate as to miss this important part of the proceedings. But all the British representatives were there—Rev. H. S. Cronin, Mr. Cross, Dr. Ferguson, Professor Ogston, Mr. Owen, and Professor Shipley. Throughout the entire series of functions the Minister of War showed by his presence that he deemed the Army Medical Department of real importance to his country. He expressed considerable pleasure at receiving congratulatory remarks from his visitors. It evidently gave him particular satisfaction to read out at the banquet before 500 guests a congratulatory telegram which arrived from the German Emperor. Amongst the Russians who specially endeavoured—and that with great success—to render the visit of the British delegates successful and pleasant may be mentioned Dr. Alexis Likhatscheff, Mr. Berthenson, Mr. Sellheim, Professor H. Turner, Mr. Wyllie, Dr. Slifosoffski, and the Medical Superintendent of the Hospital of the Academy. Greatly to the regret of every one, Russian and foreign, the President of the Academy, Dr. Pachoutine, was laid up by a severe attack of influenza. He may, however, be sincerely congratulated on the perfect way in which his arrangements were made and carried out and upon the great pleasure and enjoyment which he ensured for his foreign guests. It is to be hoped that now the festival is so successfully ended he may find the opportunity of taking needful rest and of completing a perfect convalescence. The delegates begged leave to offer him "a very happy new year" which, according to the Russian style, began on the 12th of this month.

THE USE OF THE CAT.

WE have received some publications from the Humanitarian League all pointing out how inhuman it is to flog ruffians who assault and batter passers-by in the streets. Flogging is objected to because it degrades the criminal and also the community by whose will the flogging is inflicted. We do not for one moment accept either of these arguments. The average rough cannot be degraded, although he has a very wholesome regard for his skin. We append a report from the daily press of a case tried on Jan. 5th at Marylebone Police Court in which two Kilburn ruffians were charged with assault. The evidence was as follows: "It appeared that about twelve months ago the prosecutor and the younger prisoner had a dispute. Between 7 and 8 o'clock on Boxing Night the former was walking home by himself along the Lonsdale-road and was turning a dark corner when he was suddenly set upon by six or more rough-looking fellows, including the prisoners, all of whom grossly maltreated him. The prisoners, who were evidently the ringleaders, pummelled him savagely about the face, after which he was felled to the ground by a violent blow in the eye and while still on the ground the elder prisoner kicked him in the mouth, loosening all his front teeth, and the younger kicked him about the legs. In the end he was rendered unconscious and upon coming to he found all the men had disappeared." Now it is to this kind of person, we contend, that a flogging is the most effective punishment. As a matter of fact the prisoners were sentenced to two months' hard labour during which time the country will have to pay for their keep and lodging. Humanity is wasted upon creatures of this sort.

NETLEY AS A SCHOOL FOR TROPICAL MEDICINE.

IN THE LANCET of Dec. 31st, 1898, we drew attention in detail to the advantages that Netley would offer as a school for tropical medicine could the necessary arrangements with the War Office be made. In the *Times* of Jan. 6th is a letter from Dr. John Anderson who obtained permission from the War Office to apply to the principal medical officer at Netley for a return showing the number of cases of tropical disease available at the Royal Victoria Hospital for the instruction of candidates for the Colonial Medical Service. Full statistics were furnished enumerating the number of patients suffering from tropical disease who were admitted during the years from 1892 to 1898 (to Nov. 30th) inclusive. The figures show that whilst the clinical material for teaching beri-beri is clearly insufficient (this being naturally due to the fact that Europeans rarely suffer from this disease), the advantages offered in other forms of tropical disease are much greater than in any other hospital in Europe. The number of cases of ague and remittent fever in 1897 were 176 and 25 respectively, and in 1898 were 402 and 83. The advocates of the establishment of the proposed school for tropical medicine at the Branch of the Seamen's Hospital at the Albert Docks have made a *point d'appui* of the fact that during the year ending Nov. 30th last 31 cases of *malaria* were admitted into that hospital. This number should be compared with those quoted above. Again, in THE LANCET of Nov. 19th last we mentioned that in twenty-five years only 50 cases of hepatic abscess had been treated at the Seamen's Hospital, whilst at Netley in 1897 there were 33 instances of this disease, and in 1898 (to Nov. 30th) there were 86 cases of "inflammation of the liver" and 20 of "other hepatic diseases." We may also draw attention to the number of cases of "simple continued fever" and of "Mediterranean fever" which were under treatment. The figures quoted by Dr. Anderson add strong support to our contention that although every assistance should be given by the profession to Mr. Chamberlain's scheme, yet the size of the hospital at the Albert Docks (and we are not forgetting the proposed extension) and the number of tropical cases admitted do not justify the proposed large expenditure. We do not deny that it affords a most valuable additional place of study for medical men preparing to reside abroad; but we do protest against the laying out of large sums of money when there already exists such a well-equipped and in every way suitable establishment as Netley.

PRESERVED GLYCERINATED CALF-LYMPH.

IN another column a correspondent draws attention to the fact that at the present time those who are working at the production of lymph do not fully understand the conditions under which the most active and reliable vaccine lymph is obtained from either the calf or the child. Although this is undoubtedly the case it must not be forgotten that certain general information has been obtained which has all gone in the direction of ensuring the production of a fairly and usually a very reliable lymph which when carefully collected and prepared by glycerination retains its original potency for a considerable period and then loses its active properties but slowly. For example, it is now known that the age of the calf is a somewhat important factor, its state of nutrition and general health are others. Then, as our correspondent points out, the season of the year and the state of the weather exert a marked influence on the lymph obtained. In connexion with these two latter factors, however, it should be borne in mind that the calf, like the child, is very susceptible to "warm weather diarrhœa," to rises of temperature due to slight digestive disturbances or irritation from heat, and it has long been recognised both in England and Germany that these slight derangements have a marked effect on the quality of the lymph collected. Taking all these facts into consideration it would appear then that the preparation of reliable lymph is by no means such a haphazard process as is sometimes maintained. It is suggested that glycerination and bacteriological examinations are superfluous refinements unless we can be sure that the vaccine matter has a certain "strength" to commence with. This we should hold is by no means proved. A clear active vaccine if kept for even a short time may, as has often been pointed out, become quite cloudy, and as this cloudiness becomes more and more marked two things occur which certainly cannot be disassociated—(1) the number of micro-organisms present becomes enormously increased, and (2) the activity of the virus rapidly falls. Glycerination then, in so far as it not only prevents the growth of micro-organisms but actually brings about a diminution in their numbers, conduces to the preservation of the orignal activity of the vaccine lymph and, therefore to the chance of a larger proportion of successful insertions. In regard to our correspondent's assertion that it is impossible to tell from a post-mortem examination of the calf whether the vaccine is likely to be "good" or not we would point out that the animal is not killed with that object. The post-mortem examination is made for the purpose of determining that the animal during life has suffered from no specific infective disease—e.g., tuberculosis—which might, under certain conditions be transmitted through the medium of the lymph. At the same time the fact must not be lost sight of, that slight intestinal or gastric disorders or vascular disturbances—local congestion and the like—should always be carefully looked for and taken into consideration in connexion with the probability of the lymph proving to be of reliable quality or not. As matters stand at present it is evident that opinion is in favour of the use of calf-lymph carefully prepared and collected and treated with from five to eight times its bulk of 40 or 50 per cent. pure glycerine, as against arm-to-arm vaccination, and we believe that as time goes on this opinion will be strengthened.

THE CHURCH MILITANT.

WE are always glad to be able to chronicle instances of prompt and brave action by the clergy in times of plague and sickness. Everyone knows the story of Mompesson, the rector of Eyam, during the plague time in the seventeenth century; of Belzunce, the Bishop of Marseilles, during the great plague in the eighteenth century; and of many of the East-end clergy during the cholera in 1866. These are all instances of devotion and now comes a story from a little Essex village exhibiting the same features. The village is White Roding and the rector is James Edmond Long. A week or two ago he noticed some cases of illness among children and also that the sanitary state of some cottages was very bad. Being a man of action he called upon the owner of the cottages and, together with the district councillor, inspected the back premises of the cottages in question. On Dec. 23rd he drove to Dunmow and hunted up the sanitary inspector who went next day and served notices on the occupiers to abate the nuisance. On Christmas day a child was found to be very ill; on the day after a man succumbed, and altogether there were some 16 cases of undoubted diphtheria. On Jan. 1st the child died and the parents were both very ill as well as the other 5 children. No one would see to them; the rector measured the child for the coffin, got the coffin made, took it to the house, laid the body in with *his own hands*, and then took both coffin and corpse to the rectory where he kept it until a grave had been dug. The father died on the same night. His coffin was placed on a trolley which the rector helped to drag to the graveside. If this is the behaviour of British villagers in a mild epidemic of diphtheria it is fair to ask, How would they behave in a small-pox epidemic? And we shall probably not have to wait long for an answer to this question. The parishoners of White Roding may *congratulate themselves upon the devotion* of their rector, for without his action they would have been in sore straits.

A NEW METHOD OF ENUMERATING THE SUDORIPAROUS GLANDS.

A NEW way of counting the sudoriferous glands in the human subject has been devised by Dr. Eijkmann, of the Dutch Colonial Service, who is stationed in Java. Our description is abbreviated from that of Dr. H. Gros in a recent number of the *Archives de Médecine Navale*. The spot selected for examination having been sedulously washed, with soap and water and still further cleansed by means of, alcohol and ether, an alcoholic solution of fuchsine is poured over it and allowed to dry, the drying process being accelerated by fanning. A sheet of fine white paper is then closely applied and maintained in apposition by an evenly adjusted flannel bandage, great care being taken to avoid creases and folds. On removal after a few minutes the paper will be found thickly studded with red stains, each stain representing the aperture of a sudoriferous gland. The fuchsine has no effect on the parts that keep dry, but wherever the paper has been moistened by a drop of perspiration there will be a mark. A whole series of "proofs" can be "pulled" in this way without any need to renew the fuchsine. In determining the number of glands the system adopted for counting the red corpuscles of the blood may be employed. Dr. Eijkmann has examined the skin of the palm of the hand, the forehead, the sole of the foot, the forearm, the arm, the thigh, the back, the leg, and the anterior surface of the thorax in two Malays and three Europeans. On an average of the whole body he found 160 sweat glands per square centimetre of skin in the former and 162 in the latter; but the distribution varied greatly according to situation, the palm of the hand and the brow being the parts which are most thickly studded. As far as the sudoriparous system is concerned there would therefore seem to be little or no difference between Caucasians and their more dusky brethren, but the number of subjects experimented upon is too small to admit of generalisation and, moreover, sweat glands vary greatly not only in size but also as to their secretory capacity.

A SENSIBLE DISTRICT COUNCIL.

THE Urban District Council of Malvern has through its clerk, Mr. William Lambert, issued the following notice to the medical practitioners in the district:—

"BACTERIOLOGICAL TESTS—SUPPLY OF IMMUNE SERUM.

"I am directed to inform you that the Council will be prepared to pay for the distribution of serum for the treatment of diphtheria and the application of bacteriological tests for the diseases of diphtheria, typhoid fever, and tuberculosis in those cases where the persons are unable to bear such expense themselves. I may remind you that the bacteriological tests in question are carried out at the County Laboratory at the Shirehall. "Yours truly,

"WM. LAMBERT."

The District Council through its medical officer of health provides serum and has appointed a bacteriologist in Worcester to examine and report on disease products for medical practitioners in its district. Malvern is one of the few places in which measles and pertussis are notifiable. These facts show the advantages to a community of *having* a medical man free from the restrictions of practice as chairman of its District Council and working energetically with a medical officer of health for a large area, and also independent of practice, for the public good. Malvern is a well-known and popular health resort. It deserves this reputation evidently not only on account of its natural beauties but also from the energy of its sanitary authorities.

"PULSATION OF THE FOOT" AS A DIAGNOSTIC SIGN.

DR. TATTI of Buenos Ayres has published some researches on the "Pulsation of the Foot," which phenomenon he thinks is calculated to be of service in diagnosis. The term pulsation is applied by him to the slight rhythmical movement of the foot which is observed when one leg is crossed over the other by a person in a sitting posture. Though it can be detected by simple inspection it can hardly be observed adequately for clinical purposes without the aid of an instrument constructed on the same lines as the cardiograph. Dr. Tatti gives a large number of tracings taken in this way, most of them accompanied by simultaneous tracings taken by Dudgeon's sphygmograph from the radial artery. In the normal tracing there is an oblique up-stroke; the apex of the curve is acute or slightly rounded. The down-stroke is also oblique, being straight for about the first third of its length; it then becomes sinuous and more or less horizontal. In elderly persons the apex of the main wave is more rounded and the secondary ones are smaller. In children the main wave is small and the smaller ones, which are three or *four* in number, diminish progressively in size. The application of cold diminishes the main wave. Modifications of the curve are observed in pregnancy, especially when there is œdema of the legs, in cardiac disease, and in various other conditions. It is, however, in arterio-sclerosis that the tracing of the pulsation of the foot appears likely to prove of clinical value. Here in well-marked cases this tracing becomes almost straight. Sometimes when the radial pulse gives little or no indication of the commencement of this condition *Dr. Tatti* believes that important information can be obtained from the "pulsation of the foot." As to the cause of the phenomenon he has satisfied himself that the pulsation depends upon the elasticity of the small arteries and capillaries of the leg, so that in cases where this is permanently (as in arterio-sclerosis) or temporarily (as in vaso-motor spasm caused by cold) interfered with the movements of the foot become less than they are in the normal condition.

TYPHOID FEVER IN THE FRENCH ARMY.

THE soldiers of France, according to the past official medical record of the army, have suffered a good deal from typhoid and other forms of fever, not only on their various military expeditions, but in their colonial garrisons and at their military camps and stations in France. Of late years, however, as we have had occasion to point out from time to time, the official returns issued by the French War Office have shown that very great improvement has taken place in this respect. This has been attributable to the greater care which has been taken to secure a good water-supply for the troops by the use of filters and other water-sterilising expedients, such as Vaillard and Desmaroux's highly ingenious apparatus. It appears that there has recently been a serious outbreak of typhoid fever at Cherbourg and especially among the Marine Infantry regiments quartered there. According to the *Temps* there were recently 300 cases of this fever in the Naval Hospital at Cherbourg and numerous deaths had occurred. The epidemic has prevailed since November and the troops deriving their water-supply from the river known as La Divette have been most severely affected. M. Lockroy, the Minister of Marine, has ordered an official inquiry *into the* subject. We think that on the whole less care is taken in France generally than in this country in regard to the *sources* of water-supply for drinking purposes. The fact, however, is that it is really the best and safest way to spare no pains in order to secure a good source of water-supply free from all risk of contamination and to see that the water is protected against any such contamination throughout its course until it reaches those who drink it.

THE NURSING QUESTION AT THE BULAWAYO MEMORIAL HOSPITAL.

THE Bulawayo newspapers have recently been full of correspondence dealing with the question of the nursing staff at the Memorial Hospital. Shortly the position seems to be as follows. Up to the present the nursing at the hospital has been carried out by a band of Dominican sisters who went up in the time of the Matabele war—i.e., in March, 1896—and who worked with the greatest devotion under very trying circumstances. Devotion and willingness, though both admirable qualities in themselves, especially for hospital nurses, cannot, however, in these days make up for lack of training and this training the sisters do not seem to have possessed. In May, 1897, the new resident surgeon, Dr. F. Arnold, was appointed and found matters in a state of complete chaos. Soon after an energetic secretary was appointed and the pair started each in his own department a crusade of reform. After a long correspondence between the matron *on the one* hand and the surgeon and secretary on the other a subcommittee was *appointed* to go into the whole question of management and it was on the report of this committee that the newspaper correspondence started. This report, dated November, 1897, stated that it was agreed to accept the proffered resignation of the secretary and surgeon. The resident *surgeon was, however, asked to remain for* twelve months which he agreed to do. The report proceeded to recommend that a matron and seven trained sisters should be obtained. The position at the present moment seems to be that the resident surgeon has resigned but is remaining and also that the matron and sisters have resigned but are also remaining. The hospital board sub-committee suggested that three of the present staff should proceed to Europe at their own expense to be trained and that to supply their place a matron and three nurses should be obtained from Europe and that their expenses should be paid by the hospital board. However, this scheme fell through and the position remains as we have stated above.

VACCINATION LITERATURE.

WE publish in another column a letter from the energetic secretary of the Jenner Society, pointing out how much good members of our profession may do in educating the ignorant with regard to the value of vaccination. Dr. Bond encloses some of the literature to which he refers in his letter. Perhaps the most convincing pamphlet, if anything but an attack of small-pox can convince a hardened anti-vaccinationist, is one giving a reproduction of two pages of a parish register—namely, that of the parish chapel at Pudsey, Yorkshire, in the years 1781 and 1792. There are 58 burials registered on these two pages and of these the cause of death is given in 34 cases as "small-pox." All the deaths from this cause occurred in patients under ten years of age and most of them were under six years, so that this very well shows how fatal small-pox was in the last century and how it was specially incident upon children. The pamphlet in question is illustrated by a reproduction of a photograph taken in the year 1893 of two cases of small-pox treated in the Birmingham Hospital. The one, that of a child of eleven years vaccinated in infancy, shows only a few pustules on the backs of the hands; the other, that of an unvaccinated child of three and a half years, shows the face covered with a confluent eruption. The latter child died. Probably not even an attack of small-pox would convince a conscientious objector of the type of person who argued that if it were necessary for the child to be inoculated "by beast" the Creator would have done it *before* the child was born; but anyone not absolutely fatuous could not look on this picture without at any rate being given cause for consideration.

"KYNOMANIA."

DR. W. B. MACDERMOTT of Newry sends us a communication headed "Kynomania" dealing with the subject of dangerous dogs and the want of responsibility evinced by the owners of such animals. Without going so far as to agree with the theory which Dr. Macdermott puts forward—namely, that the owner of a dangerous dog is a dangerous or mad man—we quite coincide in his opinion that the number of dangerous dogs in this country is far too great and also that the owners of such animals do not show that contrition for the deeds of their pets which they should. In our opinion the state of the law as regards dangerous dogs wants altering. We believe that no dog can be considered dangerous and its owner punished should it bite anyone unless it can be proved that the dog has bitten someone previously. The position of allowing a free bite is to our minds wholly illogical and we also think that owners of dangerous dogs should be punished much more heavily than they are when they take no pains to keep such animals under control. Dr. Macdermott points out that it is common for boys to set dogs at strangers, "a practice which is leniently ascribed to thoughtlessness but is in reality to gratify an impulse to mischief which when pronounced and developed under absence of restraint is an insane impulse." This, it seems to us, is a *petitio principii* unless we may argue that all unrestrained impulses are insane, as perhaps we may do. The "soaring human boy" is as a rule in the mental condition of a savage but is not prone to develop into insanity as that term is commonly understood. Dr. Macdermott concludes: "To meet offences committed by dogs their owners' responsibility should not be left to be enforced by private initiative but be a matter for immediate police cognisance directed to teach sane responsibility."

DEATH BY ELECTRIC SHOCK, COAL-GAS POISONING, AND A DANGEROUS PRACTICE IN CONNEXION WITH PUBLIC SEWERS.

PUBLIC service supplies are not without their dangers, be the supply water, electricity, or gas. All three have been known to be concerned in bringing an explosion about under the pavements of our streets. Thus leakage from the water-mains may destroy the insulation of electric cables and sparking may result which would ignite any coal-gas which may be escaping from the gas-mains. Sewers also may contain an explosive mixture which should it be ignited by any means would probably rupture the pipe besides being a source of danger to those who examine the working of the sewerage systems from time to time. Only recently three noteworthy occurrences were reported in connexion with gas, electricity, and sewer services which are worth recording although they do not relate to the combination of circumstances to which we have just referred. The first case is that of the death of a man from electric shock at Southampton during the laying of a cable. It appears that a leakage was suspected in a low-tension cable which was lying side by side with a high-tension cable. On proceeding to make an examination, the discharge of sparks having been previously noticed, the poor fellow by some means, though a skilled artisan and well aware of the danger of touching a bare high-tension cable, undoubtedly received a shock which proved fatal. Apparently the deceased had ignored the warning to wear gloves. From the evidence at the inquest it appeared that shutting off the current would have put the town to great inconvenience and it was stated that by exercising great care even high-tension cables could be repaired when "*alive*." The repairing of low-tension cables was not attended with anything like the same risk. The jury returned a verdict of "Accidental death." Considering the poisonous nature of coal-gas, which is due in a great measure to the carbon monoxide which it contains as well as to certain obscure aromatic bodies, it is remarkable that a greater number of cases of poisoning from this cause are not recorded. At a certain dwelling-house in Woolwich last week it was observed one morning that the blinds remained down, and that there were other signs of stillness in the house which implied that something was wrong. On gaining access to the house from the back the police found the rooms pervaded with coal-gas. On reaching the bedrooms the smell of gas was almost overpowering, and one person was found dead in bed and two nearly so. There is hope, however, that these two may recover. At the inquest on Jan. 9th on the body of the deceased person it was stated that there was a defect in an old form of chandelier in the room beneath the bedroom. We believe that this old form of extending gas-bracket has been responsible for many a disaster. In this form of chandelier there is a water seal and when the water evaporates the dipping pipe may be above the surface of the water, the arrangement thus failing as a seal, the gas escaping freely into the apartment. This is a dangerous appliance and should be done away with, especially as modern appliances are now made with special adjustments for extending their length which require no clumsy contrivance for sealing the gas by water. The last case in connexion with the dangers of public services is that in which a firm of chemical manufacturers was summoned at the instance of the West Ham Corporation for discharging dangerous chemical refuse into a sewer. Evidence was given that to this fact a serious explosion could be attributed, the effects of which in the sewers could be seen for nearly half a mile along the line of the sewer, six or seven manholes being blown off, the contents of the sewers at the same time catching fire. A sample of the sewage taken close by the defendants' works ignited readily when a light was applied, the stuff burning for nearly three minutes and throwing up a flame some 18 in. high. The inflammable character of the discharge was probably due to fiery compounds of the nature of benzine. It is quite evident that this unwarrantable procedure might not only be very dangerous but a source also of creating serious defects in a sewer which might have appalling results on the health of a locality. The magistrate was satisfied that the West Ham Corporation had made out their case and the defendants were fined heavily.

TUBERCULOSIS AT RIO DE JANEIRO.

FROM a recently-published lecture by Dr. Moncorvo of Rio de Janeiro it would appear that although of late years the population of that city has largely increased the mortality from tuberculosis has remained pretty nearly stationary. On the whole, the statistics of the disease are said to compare favourably with those issued by the sanitary authorities in Vienna, Berlin, and Paris, but in instituting comparisons of this nature the influence of climate has to be taken into consideration. Sex apparently does not influence the incidence of tuberculosis in Rio de Janeiro, but contrary to a generally-received opinion white children are more liable to suffer than are their dark-skinned congeners. Hereditary phthisis, according to the lecturer, is far from rare; but contagion is likewise a common cause of the disease, especially in the case of nurslings who are given to crawling over floors which have been contaminated by tuberculous sputa and thus run the risk of conveying the germs to their mouths with their fingers. As regards treatment Dr. Moncorvo is a great believer in the virtues of creosote. Having begun with hesitation lest it should not be tolerated, especially during the heat of the summer, he now thinks himself justified in asserting that this medicament is exceedingly well borne by youthful patients and that in it we possess one of the most efficacious of known remedies against tuberculosis.

THE BACTERIOLOGY OF RUM.

IT might be thought impossible on the face of it that there could be any bacteriology of rum seeing that it contains nearly 75 per cent. of alcohol, but according to the results of a very interesting investigation[1] recently made by Mr. V. H. Veley, M.A., F.R.S., of Oxford University, and his wife there does exist an organism in rum which accounts for an apparent disease to which it is liable at times and which is known in the trade as "faultiness." The cause of this disease has long been unexplained, for it has never occurred to those concerned that it could be due to a microbe, especially as the strength of the spirit is only 25 per cent. short of pure alcohol. The "faultiness" of rum is at once obvious when the spirit is diluted with an equal bulk of water, the diluted liquid either immediately or after some hours becoming cloudy and depositing on longer standing a more or less copious precipitate or showing the presence in greater or less abundance of floating flocculencies. The micrococcus which has been isolated and identified as the cause of "faultiness" is a very interesting organism. It does not, however, appear to be pathogenic or toxic according to the results of inoculating a guinea-pig. Its survival in spirit—that is, in a liquid which has hitherto been considered to be one of the best materials for preserving anatomical specimens—is remarkable. Strictly speaking, however, the organism does not flourish in alcohol but "in its gelatinous envelope, thus living as it were in a state of siege in its own castle through the walls of which it can obtain its necessary supplies of food in the form of sugar while keeping out its enemy alcohol." No definite information has been obtained as to the original habitat of this peculiar micro-organism. The discoverers of this new micro-organism which has caused a great pecuniary loss to manufacturers propose to call it provisionally *Coleothrix methystes*, from κολεός (a sheath) and *μεθυστής* (a drunkard)—a name ingeniously suggested by a Fellow of Corpus Christi College.

MORGAGNI AND THE MEDICAL BROTHERHOOD.

IN scientific medicine Italy was England's "first love." The fact is beautifully illustrated by the Italian historian of the healing art, Francesco Puccinotti. He describes for us the great teacher Acquapendente who having dismissed his class for the day with a peroration of noble Latinity is in the act of receiving William Harvey who has just entered the anatomical theatre with Galileo arm-in-arm. While the two elderly Italians are discussing the new inductive method the young Englishman's eye is arrested by a representation of the semilunar valves which Acquapendente has been demonstrating and the future discoverer of the circulation is all aglow with the "trepida gioia" of a pioneer who has just alighted on an "indication" which converts surmise into conviction. Is there no artist, exclaims Puccinotti, to transfer the epoch-making episode to canvas? Another great Paduan teacher who first disclosed to anatomists the coraco-brachial muscle, Casserio, received the thanks of his British pupils in the immortal elegiacs of the "Caledonian Ovid," Arthur Johnston, whose noble rehabilitation by Sir W. D. Geddes is one of the latest and not the least distinctions of the Aberdeen school. The mighty impulse Italian teaching gave to British medicine in the seventeenth century still survived in the eighteenth when the "Father of Pathology" by his writings, if not by his prælections, inspired the Heberdens, the Hunters, and the Baillies of these islands with some of their most pregnant and prolific ideas. Since then, indeed, the pupil has excelled the master and it is Italy's turn to show her gratitude to the successor on whom her mantle has greatly fallen for the restitution to her, with interest, of the "talents" which she sent forth to develop and to fructify three centuries ago. She is steadfastly loyal to the mighty prophylactic of Jenner and proportionately grateful to its deviser. She places on the façade of the surgical wing of her Roman Policlinico the sculptured presence of the pioneer of antisepsis, Lister. She vies with her continental sisters in eliciting and in illustrating "facts for Darwin," and she wins the prize of our Royal Society by Grassi's brilliant work in that field. *Spirat adhuc amor!* and on Sunday last in one of the greatest and historically most distinguished of her clinical schools, the Ospedale Maggiore of Milan, she unveiled and bade God-speed to its London destination the bust of her own Morgagni, glad to be reminded of what Great Britain owes to her in the past. All this is as it should be. In the vicissitudes of evolution peoples and schools have each their turn and none can ever claim to have been independent of its precursors or to have said the last word in the inductive sphere. Medicine, of all other arts the most progressive, the most responsive to every impulse or inspiration from that world with which it keeps in ever more intimate touch, relies most on combination, on concerted movement, on unity of "objective." Such is the strategy, such are the tactics, by which it will gain fresh victories in its perennial conflict with disease and premature death. Conspicuous among contemporary interests for the "brotherhood" it equally requires and maintains, it is yearly contracting new alliances and forming new connexions in furtherance of that most "imperial" of all policies—the humanitarian. It is in this light that we welcome every *rapprochement* between our continental brethren and ourselves, all the more when, as in the case of this latest token of Italian reciprocity and goodwill, it comes from a power to which we may yet owe in the future as much as we have owed to it in the unforgotten past.

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[1] "The Micro-organism of Faulty Rum," by V. H. Veley, M.A., F.R.S., and Lilian J. Veley. London: Henry Frowde, Oxford University Press, Amen-corner, E.C. 1892.

THE PHARMACEUTICAL SOCIETY AND THE SALE OF POISONS.

THE Pharmaceutical Society of Great Britain held a meeting on Wednesday in Bloomsbury-square for the purpose of discussing new legal regulations with regard to the storage and dispensing of poisons and especially with regard to the prevention of the indiscriminate sale of poisons. Mr. Walter Hills, President of the Pharmaceutical Society, presided. Mr. Robinson, L.C.C., suggested the following resolutions to the members of the society:—

1. That every vessel should be strictly labelled with the particular poison it contained.

2. That poisons in storage should be distinguishable by shape of bottle or package.

3. That in the dispensing and selling of poisons all liniments, embrocations, and lotions containing poisons should be sent out in bottles rendered distinguishable by touch from ordinary medicine bottles, and that there should also be affixed to each such bottle a label giving notice that the contents of the bottle are not to be taken internally, in addition to the name of the article and any particular instructions as to the use.

After considerable discussion the resolutions were carried by a vote of 111 to 5.

THE CHARGE AGAINST DR. REICHARDT.

THE case recently heard at the Surrey Quarter Sessions at Kingston has naturally aroused much interest amongst medical men. The care of patients of weak intellect in private houses always gives rise to no little anxiety and it is often very difficult to say whether such a person should be certified or not, for it "must be fully understood that a person of unsound mind can transact business unless he has been placed under certificates, so that a person, although acknowledged by his friends to be a lunatic, can sign cheques and make a will and squander his property without let or hindrance unless he is made a lunatic by inquisition or unless he is under certificates" (Savage). On the other hand, a medical man who signs a certificate is liable to action on the ground that he negligently and culpably failed duly to inquire into the truth of the facts. A lady named Miss Ethel Hannah Stoeterfoht was placed under the care of Dr. E. N. Reichardt of Ewell and resided in his house. She one day left the house and committed suicide and Dr. Reichardt was indicted on ten counts for "unlawfully receiving and detaining for payment at his residence, Dorset House, Ewell, a lunatic—viz., Ethel Hannah Stoeterfoht—and other lunatics, the said house not having been licensed for the reception of lunatics." The whole trial naturally turned on the question as to whether the patient was or was not a lunatic. The medical evidence was entirely to the effect that the lady was not a person who could have been certified as insane under the Lunacy Act, 1890. The prosecution did not call any medical man to say that she was, and as in such cases medical evidence—especially expert evidence—is rightly considered the means by which such a question should be decided a verdict of "Not guilty" was returned. Dr. Reichardt had done everything he could in the way of treatment for his patient, and although it was afterwards manifested that deliberate preparations for suicide had been made, yet in her general conduct there had been no indications that she was likely to make any attempt upon her life. Great sympathy has been felt for Dr. Reichardt in the position in which he was placed and the verdict has completely exonerated him from any suspicion of professional negligence.

"DOCTOR THERNE."

AT a meeting of the Executive Committee of the Jenner Society held in Gloucester on Dec. 22nd, 1898, the following resolution was passed unanimously:—

"The members of the Executive Committee of the Jenner Society desire to express their appreciation of the recognition of the work of the society by Mr. Rider Haggard in the dedication to its members of his powerful story, 'Doctor Therne.' They also desire to assure Mr. Rider Haggard of their warm sympathy with his just and vigorous protest against the dangerous agitation carried on against vaccination by which many thousands of persons have been misled and have been induced to deprive their children of the only certain protection against a virulent and fatal disease. The committee congratulate Mr. Haggard upon his uncompromising exposure of this evil and trust his book may have a large circulation, as being calculated to lead a considerable section of the public, who cannot be otherwise interested in the subject, to give serious consideration to a matter of urgent and overwhelming importance, affecting, as it does, the health and lives of multitudes of hapless children who may be exposed to the infection of small-pox without the protection afforded by vaccination."

Readers of THE LANCET will remember the high terms of praise in which we were able to refer to Mr. Haggard's romance for its literary vigour and conception as much as for its doctrines.

A CASE OF CHRONIC ONE-SIDED PULMONARY ATELECTASIS.

ON Jan. 4th Mr. E. N. Wood held an inquest upon the body of Charles Lee, aged forty-two years, who had died suddenly on Jan. 1st. Mr. John Mulqueen who was called to see deceased said that upon his arrival he found the patient dead. The cause of death was hæmorrhage. Only one lung had developed. Mr. Mulqueen has kindly sent us the following account of what he found at the post-mortem examination. He says:—

"I made a post-mortem examination on Jan. 3rd and could only find one lung—the right—which was of enormous size extending across the front of the heart and dipping down and fairly well filling the left thoracic cavity. On dissecting the pleura off the back of the left thoracic cavity I came on a small, hard, dark mass which I took to be a rudimentary left lung. At the bifurcation of the trachea the left bronchus was completely obliterated, no air in my opinion ever having entered. There was a cavity at the apex of the right lung of about the size of an egg. The immediate cause of death was hæmoptysis from rupture of a large blood-vessel at the apex."

We fancy that this condition is exceedingly rare. Two cases of congenital absence of one lung were reported by Dr. Wenzel Gruber in Virchow's *Archiv* and referred to in the *British Medical Journal* of Dec. 12th, 1885. Both cases, however, occurred in infants, one of whom was stillborn. The other child had an accessory liver and three accessory spleens. An almost exactly parallel case to that reported by Mr. Mulqueen was commented on in THE LANCET of June 6th, 1885, and communicated by [illegible] Glover to the Islington

Medical Society. Here the patient was sixty-three years of age, the absent lung was the right, and was reduced to a substance resembling a sausage. The left lung was correspondingly large, and the heart was displaced to the right side.

SALINE SOLUTION IN THE HÆMORRHAGE OF TYPHOID FEVER.

THE value of saline injections in hæmorrhage and collapse from other causes is now well attested, though they are not, perhaps, as widely used as they ought to be. Not many cases of their use in hæmorrhage occurring in typhoid fever have been published. In the *Intercolonial Medical Journal of Australasia* Dr. J. Ramsay has published the following case. A man, aged forty-six years, had severe typhoid fever; the temperature was 104·2° F. and the pulse was 100. He passed 8 oz. of blood and on the following day 10 oz. and a few more ounces with the stool. The temperature fell to 97·6°, the pulse was from 70 to 80, the respiration was sighing, and the skin was clammy. Brandy, strychnine, and digitalis were given without effect. The pulse became weaker and unconsciousness and lividity of the hands and ears supervened. He was practically moribund. Two pints of normal saline solution at 100° were injected into the median cephalic vein. Towards the end of the injection the pulse improved in volume and the general appearance became better. But the effect was only temporary. The patient was livid and lay with half-closed eyes, hiccoughing, vomiting, and passing urine involuntarily. Four hours after the first injection one and a half pints of the solution were injected. Improvement again followed, which was more lasting. After this the fever ran the ordinary course, a relapse of ten days' duration occurred, and he slowly convalesced.

OIL OF EUCALYPTUS, B.P. 1898.

THE increased requirements in regard to the quality of oil of eucalyptus as laid down in the British Pharmacopœia, 1898, have led to the prosecution of a druggist in Islington because though the oil he sold complied with the British Pharmacopœia of 1885 it was not in accordance with the characters and tests now officially demanded in the 1898 edition. Accordingly proceedings were taken under the provisions of the Food and Drugs Act which require that the article sold shall be "of the nature, substance, and quality demanded," &c. The evidence showed that the oil purchased was of the character which the British Pharmacopœia, 1898, evidently intended to exclude. The specific gravity was much lower than 0·910, the official minimum limit, its rotatory power was remote from the standard, it yielded no crystals with phosphoric acid which shows the presence of a due proportion of cineol, while the nitrous acid test showed the presence of phellandrene which is said to give rise to an irritating effect when inhaled. The promptitude and activity of the Islington Vestry in starting so soon a plan of campaign under the fresh requirements of the British Pharmacopœia are conspicuous. A conviction was obtained but we cannot help thinking that the action was a little premature and somewhat hard on the pharmacist. The authorities need not have gone so far as to have actually prosecuted for the sale of a drug which last year was in compliance with the British Pharmacopœia but which is not so now. Surely a warning to the druggist would have had the desired, as well as a salutary, effect and have given him a hint to get rid of his old stock and to replace it with new.

SIR RICHARD DOUGLAS POWELL, M.D., F.R.C.P. Lond., has been appointed Physician-in-Ordinary to the Queen in the room of the late Sir William Jenner; Mr. James Edward Pollock, M.D. King's Coll. Aberd., F.R.C.P. Lond., has been appointed Physician-Extraordinary to the Queen in the room of the late Sir Richard Quain; and Mr. Thomas Barlow, M.D., F.R.C.P. Lond., Physician-in-Ordinary to Her Majesty's Household, has been appointed Physician-Extraordinary in the place of Sir R. Douglas Powell.

MESSRS. LONGMANS, GREEN, AND CO. will shortly reissue in a cheaper form Mr. S. Squire Sprigge's work, "The Life and Times of Thomas Wakley."

DR. J. A. SEWELL, one of the oldest British residents in Mentone, died at Beau Rivage last week.

VACCINATION OFFICERS AND THE NEW ACT.

A MEETING of the members of the Vaccination Officers' Association was held on Jan. 7th at the offices, 4, Bessborough-street, W. Mr. Shattocks (Kensington), the President of the Association, occupied the chair and was supported by a large number of vaccination officers from various metropolitan unions and the home counties. A special committee was appointed to consider what steps should be taken to extend the usefulness of the association, which it is intended to convert into a national organisation. In view of the many letters which were read from country officers expressing approval of the efforts which had been made on behalf of the service the chairman urged the absolute necessity of frequent conference among vaccination officers in consequence of the new and important duties cast upon them by the Act of 1898. In the course of general discussion upon the conscience clause of that Act and the extension of the age-period from three to six months the opinion was expressed by most of the officers that these provisions would be prejudicial to securing satisfactory returns in the future, but the belief was expressed generally that as the Government were responsible for the purity of the lymph the bringing of vaccination to the homes of the people would in time be fully appreciated as soon as the alteration was duly appreciated by the public. Aided by the hearty coöperation of the public vaccinator which was held to be indispensable and much to be desired, the members expressed their determination to discharge their new duties as faithfully and efficiently as possible, while it was also held to be a good augury for the future of the new Act that so many busy men in the beginning of a new *régime* should meet together actuated by the sole desire to do their best for the public interest. Some amusing stories were told concerning the "conscientious objector," one officer relating a case in his district where he had received exemption certificates for a number of children and afterwards had received certificates of their successful vaccination—a circumstance which led him to believe that not a few parents were suffering merely from a temporary aberration of conscience.

CHRISTMAS-TIDE AND THE HOSPITALS.

OPINIONS differ as to the wisdom of giving entertainments at institutions specially devoted to the care of the sick, but it is gratifying to see that special care is taken by many of the hospitals to prevent any great inconvenience to those patients whose condition is such that anything but absolute quietness is irritating, if not actually harmful. At St. Mary's Hospital, for instance, special rules were enforced in order "that no one very ill shall be tortured by the noisy enjoyment of those well enough to engage in it." Nevertheless Christmas time is essentially one of "brotherly love" and also one when all Christian peoples endeavour to make their neighbours happy. Especially is this so with regard to the poor and suffering and as long as Father Christmas is venerated efforts of some kind will always be made t cheer the lives of those who through sickness are separated from their friends' during the celebration of this festival We append below brief notes which we have received from the various hospitals

On account of the death of Baron Ferdinand de Rothschild, the founder, there were no festivities at Evelina Hospital.

East London Hospital for Children and Dispensary for Women —The entertainment here provided took the form of a Punch and Judy show, Christmas tree, &c , in addition to which there was a band comprised of several members of the Royal Horse Guards

Royal Free Hospital —The Christmas festivities began on Dec 15th with the students entertainment, which consisted of the well known one-act operetta, *Our Joys*, and *Mrs Jarley's Modern Waxworks*, and some comic songs This was given in two wards and again the following evening in two more On the 19th and 20th carols were sung in all the wards to the accompaniment of stringed instruments and by the light of Chinese lanterns These were followed by the distribution of the usual Christmas gifts of clothing, sweets, and toys Christmas day was celebrated on Boxing day by the sisters' teas to old patients and friends in the wards, which were very prettily decorated On the following day the entertainment of the resident medical officers took place in four wards Mr Williams gave a magic lantern exhibition, Mr. Wyndham Jones ("Captain Spider), an old patient and the "Fly" sang comic songs to the banjo and fiddle, Mr Crispin showed a phonograph, a conjuror performed in two wards, and Mr Tunnicliff sang comic songs On Dec 28th and 29th concerts were given by the sisters in the Milne and Rhodes wards followed by refreshments to the patients and their friends

German Hospital, Dalston —The Christmas festivities took place on Saturday evening, Dec 24th, and consisted of carol singing in the wards, a distribution of useful presents to the patients, besides toys and picture books to the children

St George's Hospital —On Christmas day all the patients who were able to partake of them had roast beef, plum-pudding, &c On Dec 28th a Christmas tea was provided in every ward for the patients when each patient received a gift On Jan 5th the usual entertainment for the patients was held in the board room, when Devant's animated photographs were exhibited, with music, &c On Jan 9th and 10th the annual entertainments for the nursing staff took place, when a programme of music, recitations, &c , was arranged

Royal Hospital for Children and Women —Santa Claus paid his annual visit to the wards on Christmas Eve and the children found his gifts when they awoke on Christmas morning Turkeys and the usual Christmas fare were partaken of by all fit to do so, and for the others suitable good things were provided On Dec 27th there was a Christmas tree, Punch and Judy, and other juvenile delights, and each patient invited one or two guests

St Mary's Hospital —On Christmas day turkeys were provided for dinner and in the afternoon and evening the nurses, medical officers and other friends entertained the patients A case of toys was sent by request of H R H the Duchess of York from Kew children and other friends A large case of toys was received from *Home Chat* Christmas tree and a large parcel of toys, crackers, &c , was received from *Truth* Two cases of Persian dates were received from Mr J B Gray, toys and dolls were received from Mrs Ellis, toys from Mrs Enoch warm underclothing from Lady Surtees, 6 large turkeys from Mr John Aird, M P a box of clothing from Miss Henderson 10 pheasants from Viscount Portman, toys from Miss Dundas Graham, books cards &c , from the Religious Tract Society socks and stockings from Miss Eleanor Barton toys and books from *Little Folks*, and warm clothing from the Hon Miss M Mostyn Each patient in the hospital received a present of clothing and a Christmas letter on Christmas morning, and every man, health permitting received also 1 oz of tobacco and a pipe and was allowed to smoke in the hospital On Dec 28th a Christmas tree for the children was held in the board room Before the distribution of toys there was a Punch and Judy show and after it an entertainment consisting of thought-reading and ventriloquism.

London Hospital —Early on Christmas morning a number of sisters, nurses, and probationers assembled in the nursing home and then walked round all the wards in the hospital singing carols, a proceeding which the nurses enjoyed and which pleased the patients very much Later in the morning Father Christmas and his attendants visited each ward and distributed a present to every patient, each sister having the interesting little packets in readiness for Father Christmas Christmas cards and letters were distributed by the night sisters early in the morning and the wards presented a bright appearance with each patient's new possessions spread out with pride and satisfaction on the bed Christmas fare in the shape of roast beef and plum pudding was provided by the hospital for all those well enough to partake of it Some fortunate wards had gifts of turkeys sent to them In many cases great delight was given to the patients by the fact that their own medical attendant helped to serve the pudding on this festive occasion Later in the afternoon the Christmas tea took place in each ward These teas were followed by a series of well organised entertainments got up by the medical officers and students who worked indefatigably on Christmas day to give the patients a happy time Christy minstrels, Pierrots, farces, comic songs in character, well adapted to the taste of the audience, were given in every ward, the programme being carefully worked out so that the enjoyment never flagged until the cheerful evening was brought to a close at 8 P M Many friends of the medical officers and nurses also visited the hospital and gave songs and recitations Smoking was allowed in the men's wards during the whole of Christmas day and the men looked forward to this privilege with great satisfaction from the time they realised that they were destined to spend their Christmas day in the hospital The tobacco for this festive occasion was kindly provided by the medical officers

Middlesex Hospital —By the energy of the lady superintendent and her friends the patients, nurses, and servants were again each presented with a gift on Christmas morning The serious nature of the illness of most of the patients prevented any dramatic function or concert being held in the wards, but in order to make Christmas as cheerful as possible each of the wards was tastefully decorated and a special Christmas dinner, consisting of turkeys or geese and the usual Christmas pudding, was provided for those well enough to partake of it In the afternoon the patients were allowed to see their visitors and had a special tea provided There was a Christmas tree in the board room loaded with many beautiful gifts, from which each of the patients had something A special feature, however, was the two Christmas trees in the children's wards These trees were unloaded on New Year's day when the children had a tea party It should be remembered that although there were no actual entertainments at the hospital proper the hospital has a convalescent home of its own at Clacton on Sea It is here that the patients as soon as they are well enough are sent and in this home the Christmas entertainment is of a more elaborate character—in fact, the patients there in the winter have one long holiday There is a stage in the dining hall in which sometimes as often as twice a week a dramatic performance is given or a concert is held

North Eastern Hospital for Children —The little patients who had been thinking for many days of nothing but Christmas and the delights which they had learnt from tradition were always associated with that time at a children's hospital found that the fun and enjoyment of the festivities which were celebrated on Bank Holiday far exceeded their highest conceptions Carol singing commenced the day and was followed by the distribution of toys, cards, and sweets of which, through the kindness of many friends of the hospital, there were enough for every child The Christmas dinner was served at midday and the afternoon and evening were spent in the enjoyment of Punch and Judy, a magic lantern entertainment, and in all kinds of Christmas games The festivities were continued on Tuesday with little diminution The committee provided the dinner and the nursing staff and resident medical officers were responsible for the tasteful decorations Christmas trees were provided, decorated, and hung with toys, &c in time for the annual Christmas tree party which took place on Jan 11th Sunday is the usual visiting day and each mother who visited her child on Christmas Day received a present of two articles of clothing for the little ones at home.

Royal Orthopædic Hospital —Christmas day falling this year on Sunday the usual treat to the patients was given on Boxing day. All the wards were tastefully

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING DECEMBER, 1898.

(Specially compiled for THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1898.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,504,766	2	1230	1065	1	398	4	20	477	—	3257	9·5	—	107	42	174	101	1	79	1	65	570	1·7	5773	16·9	122
West Districts.																										
Paddington	127,480	—	12	43	—	9	—	—	11	—	75	7·8	—	—	1	7	5	—	2	—	—	15	1·5	151	15·6	121
Kensington	172,174	—	34	9	—	13	1	—	23	—	80	6·1	—	—	1	1	2	—	5	—	2	11	0·8	176	13·4	118
Hammersmith	107,370	—	35	4	—	4	—	—	10	—	53	6·5	—	—	4	1	1	—	2	—	2	10	1·2	132	16·2	142
Fulham	125,275	—	65	29	—	11	—	2	15	—	122	13·2	—	1	2	5	2	—	4	—	2	16	1·7	136	14·8	125
Chelsea	96,713	—	16	15	—	8	—	1	8	—	48	6·5	—	—	1	—	2	—	2	—	—	5	0·7	103	14·6	162
St. George Hanover-square	80,608	—	9	11	—	11	—	—	6	—	37	6·0	—	—	—	1	—	—	2	—	1	4	0·6	64	10·4	34
Westminster	52,574	—	3	5	—	7	—	—	1	—	16	3·9	—	—	1	—	—	—	—	—	—	1	0·2	51	12·5	41
St. James Westminster	22,200	—	1	2	—	—	—	—	4	—	7	4·0	—	1	—	1	—	—	—	—	—	2	1·1	20	11·5	91
North Districts.																										
Marylebone	140,483	—	27	20	—	14	—	—	19	—	80	7·4	—	—	1	5	1	—	5	—	1	13	1·2	175	16·2	106
Hampstead	78,755	—	14	16	—	4	—	—	4	—	38	6·4	—	—	—	3	—	—	3	—	—	6	1·0	72	12·1	109
St. Pancras	243,416	—	80	49	—	35	—	—	31	—	195	10·5	—	10	6	15	9	—	4	—	7	51	2·7	361	19·4	149
Islington	344,616	—	104	41	1	27	—	2	23	—	198	7·6	—	2	2	4	13	1	6	—	3	31	1·2	405	15·5	104
Stoke Newington	34,660	—	16	9	—	3	—	—	1	—	29	11·1	—	—	—	—	—	—	1	—	—	1	0·4	30	11·5	86
Hackney	219,630	—	68	73	—	24	1	1	21	—	188	11·3	—	9	3	6	4	—	2	—	3	27	1·6	253	15·2	107
Central Districts.																										
St. Giles	37,519	—	6	1	—	1	—	—	2	—	10	3·4	—	—	1	—	—	—	—	—	1	2	0·7	49	16·9	93
St. Martin-in-the-Fields	12,424	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17	17·4	125
Strand	23,284	—	3	7	—	2	—	—	—	—	12	6·6	—	—	—	—	—	—	1	—	1	2	1·1	38	21·0	128
Holborn	30,056	—	7	4	—	1	—	—	3	—	15	6·4	—	—	—	—	—	—	1	—	—	1	0·4	52	22·2	155
Clerkenwell	66,120	—	21	19	—	10	—	—	6	—	56	11·0	—	4	—	2	—	—	—	—	1	7	1·4	96	18·9	126
St. Luke	41,076	—	8	12	—	1	—	—	6	—	27	8·5	—	1	—	1	—	—	—	—	—	2	0·6	70	22·1	90
City of London	29,088	—	4	1	—	3	—	—	1	—	9	3·9	—	—	—	1	—	—	—	1	—	2	0·9	34	14·7	133
East Districts.																										
Shoreditch	121,485	—	24	25	—	6	—	1	12	—	68	7·1	—	9	2	3	2	—	3	—	—	19	2·0	181	19·4	123
Bethnal Green	129,027	—	25	36	—	13	—	1	39	—	114	11·5	—	12	1	7	—	—	2	—	2	24	2·4	208	21·0	108
Whitechapel	80,559	—	25	18	—	1	—	1	13	—	58	9·5	—	7	—	4	3	—	—	—	4	18	2·9	120	19·6	137
St. George-in-the-East	48,241	—	15	8	—	6	—	—	12	—	41	11·2	—	—	—	1	1	—	—	—	1	3	0·8	73	19·9	142
Limehouse	58,661	—	3	17	—	3	—	—	6	—	29	8·5	—	7	—	5	2	—	—	—	1	15	3·3	99	22·0	139
Mile End Old Town	112,628	—	26	28	—	8	—	5	16	—	83	9·7	—	14	—	7	—	—	3	—	2	26	3·0	170	19·8	127
Poplar	170,220	—	18	32	—	21	—	1	22	—	94	7·2	—	6	1	4	3	—	4	—	3	21	1·6	236	18·1	159
South Districts.																										
St. Saviour Southwark	24,562	—	6	13	—	3	—	—	2	—	24	12·6	—	3	—	2	4	—	1	—	—	10	5·2	64	28·2	118
St. George Southwark	60,466	—	10	32	—	7	—	—	5	—	54	11·7	—	5	1	5	3	—	4	—	—	18	3·9	107	23·1	157
Newington	123,183	—	33	51	—	8	—	1	18	—	111	11·8	—	7	1	12	9	—	—	—	3	32	3·4	225	24·0	201
St. Olave Southwark	11,288	—	3	—	—	1	—	—	—	—	4	4·5	—	—	—	—	—	—	1	—	—	1	1·1	15	17·0	77
Bermondsey	85,738	—	29	32	—	6	—	1	9	—	77	11·7	—	3	—	8	—	—	—	—	—	11	1·7	140	21·3	159
Rotherhithe	40,849	—	19	2	—	5	—	—	9	—	35	11·2	—	—	1	—	3	—	—	—	1	5	1·6	66	18·0	88
Lambeth	304,073	1	76	107	—	21	1	2	27	—	235	10·2	—	1	8	17	6	—	5	—	7	44	1·9	387	16·8	114
Battersea	171,921	1	44	89	—	20	—	—	16	—	170	13·1	—	1	2	17	6	—	4	—	1	30	2·3	203	15·7	106
Wandsworth	202,526	—	94	45	—	25	—	1	31	—	196	13·1	—	1	1	6	6	—	3	—	4	21	1·4	223	14·9	132
Camberwell	261,189	—	85	72	—	24	1	—	22	—	204	10·3	—	3	—	8	9	—	2	—	2	24	1·2	303	15·3	133
Greenwich	180,441	—	83	30	—	17	—	—	11	—	141	10·3	—	—	—	7	3	—	4	—	6	20	1·5	210	15·3	74
Lewisham (excluding Penge)	88,562	—	16	31	—	7	—	—	4	—	58	8·8	—	—	—	3	2	—	3	—	—	8	1·2	94	14·2	87
Woolwich	41,478	—	33	10	—	2	—	—	3	—	48	15·1	—	—	—	2	1	—	—	—	2	5	1·6	50	15·7	70
Lee	39,717	—	17	14	—	3	—	—	—	—	34	11·3	—	—	—	2	—	—	—	—	—	2	0·7	55	18·3	153
Plumstead	62,531	—	73	5	—	3	—	—	5	—	86	18·4	—	—	1	1	—	—	—	—	2	4	0·9	74	15·8	163
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 21 cases of membranous croup.

† Including deaths from membranous croup.

many as 201 below the corrected average number in the corresponding periods of the ten preceding years; this disease showed the highest proportional fatality in Shoreditch, Bethnal Green, Whitechapel, Limehouse, Mile End Old Town, and St. George Southwark sanitary areas The 42 deaths referred to scarlet fever were about half the corrected average number; among the various sanitary areas this disease was proportionally most fatal in Hammersmith and Lambeth. The 174 fatal cases of diphtheria were 32 below the corrected average number; this disease showed the highest proportional fatality in St. Pancras, Limehouse, Mile End Old Town, St. Saviour Southwark, St. George Southwark, Newington, Bermondsey, and Battersea sanitary areas. The 101 deaths from whooping-cough were 80 below the corrected average number; among the various sanitary areas this disease was proportionally most fatal in St. Saviour Southwark, St. George Southwark, Newington, and Rotherhithe. The fatal case of typhus fever belonged to Islington sanitary area. The 79 deaths referred to enteric fever were 14 above the corrected average number; this disease showed the highest proportional fatality in Fulham, Marylebone, Hampstead, St. George Southwark, and Lewisham sanitary areas. The 65 fatal cases of diarrhœa slightly exceeded the average. In conclusion, it may be stated that the aggregate mortality in London last month from these principal zymotic diseases was more than 36 per cent. below the average.

Infant mortality in London during December, measured by the proportion of deaths of children under one year of age to registered births, was equal to 122 per 1000, and was considerably below the average. Among the various sanitary areas the lowest rates of infant mortality were recorded in St. George Hanover-square, Westminster, Stoke Newington, St Olave Southwark, Lewisham, and Greenwich; and the highest rates in Chelsea, Holborn, Poplar, St. George Southwark, Newington, Bermondsey, and Lee.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

FLEET SURGEON VALENTINE DUKE is placed on the retired list with the rank of Deputy Inspector-General of Hospitals and Fleets.

The following appointments are notified:—Fleet Surgeons: A. W. Russell to the *Pembroke*, for Chatham Dockyard; J. L Sweetnam to the *Pembroke*, temporary; A McKinlay to the *Howe*; and A. H Miller to the *Resolution* Staff Surgeons: J. C. F. Whicher to the *Melampus*; F. J. Burns to the *Pactolus*; W. Eames to the *Theseus*; W S. Lightfoot to Plymouth Hospital; J. Barry to the *Pegasus*; G H. Foott to the *Pelorus*; and H. W. Macnamara to the *Boscawen*. Surgeon J. Martin to the *Theseus*.

ARMY MEDICAL SERVICE.

Surgeon-General W. Taylor, to be Deputy Director-General. Lieutenant Colonel W. L Gubbins, Royal Army Medical Corps, to be Assistant Director. The under-mentioned officers of the Royal Army Medical Corps to be Deputy Assistant Directors:—Major W G. A Bedford and Major W. G Macpherson.

ROYAL ARMY MEDICAL CORPS.

Major E H Myles is posted to the Punjaub, Major G F. Gubbin to Bengal, and Majors R H Forman and F. J. W. Stoney to Madras. Captain Rawnsley embarks for Bombay, Captain R J. Copeland joins at Woolwich, and Lieutenant G S Nickerson embarks for Egypt Major H G. Hathaway is directed to join at Woolwich

Captain Alexander J Chambers is placed on temporary half-pay on account of ill-health

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain M. Mackenzie to be Surgeon-Major; Surgeon-Captain Robert Mitchell, 1st Volunteer Battalion the Lancashire Fusiliers, to be Surgeon-Captain.

VOLUNTEER CORPS.

Artillery: 4th Durham (Western Division, Royal Artillery): Surgeon-Lieutenant-Colonel S. Gourley resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the corps on his retirement. *Rifle*: 1st Volunteer Battalion the Buffs (East Kent) Regiment: Arthur Ernest Larking to be Surgeon-Lieutenant. 1st Herefordshire: James McKean to be Surgeon-Lieutenant. 2nd Volunteer Battalion the Duke of Cambridge's Own (Middlesex Regiment): Second Lieutenant A. D. Howard to be Lieutenant; Surgeon-Captain H. G. G. Wilkins resigns his commission.

THE VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

The following officers who have been under instruction from the staff of the school have recently passed the proficiency examination conducted by the officers of the Royal Army Medical Corps at the headquarters of regimental districts—viz.: Surgeon-Major C. Godson, Army Medical Reserve of Officers; Surgeon Captain A. Abraham, 5th Volunteer Battalion Durham Light Infantry; Surgeon-Lieutenant J. W. Edwards, Tees Volunteer Division Submarine Miners, Royal Engineers; Surgeon-Lieutenant J. F. Fotheringham, Queen's Own Rifles of Canada; Surgeon-Lieutenant D. G. Newton, 1st Volunteer Battalion York and Lancaster Regiment; Surgeon-Lieutenant J. F. Hall, 3rd Volunteer Battalion "The Queen's" Royal West Surrey Regiment; Surgeon Lieutenant J. F. McCann, 1st Middlesex (Victoria and St. George's) Rifle Volunteers; Surgeon-Lieutenant J. E. Bates, Bearer Company, Surrey Volunteer Brigade; Surgeon-Lieutenant J. Allison, 1st Volunteer Battalion Northampton Regiment; Surgeon-Lieutenant J. W. Bone, 3rd Volunteer Battalion Bedfordshire Regiment; Surgeon-Lieutenant D. Monro, 1st Galloway Rifle Volunteers; Surgeon Lieutenant W. K. Paull, 3rd Volunteer Battalion Bedfordshire Regiment; Surgeon-Lieutenant J. Oldfield, 1st Volunteer Battalion Essex Regiment; Surgeon-Lieutenant C. Stephens, 3rd Volunteer Battalion Suffolk Regiment; Surgeon-Lieutenant J. Forsyth, 1st Essex Volunteer Artillery; Surgeon-Lieutenant W. T. Crawford, 4th Volunteer Battalion Derbyshire Regiment; Surgeon-Lieutenant P. D. Minchin, 2nd Volunteer Battalion "the Queen's" Royal West Surrey Regiment; Surgeon-Lieutenant J. Raywood, 5th Volunteer Battalion the South Wales Borderers; Surgeon-Lieutenant L Demetriadi, 2nd Volunteer Battalion (the Duke of Wellington's) West Riding Regiment; Surgeon-Lieutenant J. W. Cook, 1st Volunteer Battalion the Lancashire Fusiliers; Surgeon-Lieutenant C. Bucknill, 2nd Volunteer Battalion the East Lancashire Regiment; Surgeon-Lieutenant D. Hamilton, 4th Volunteer Battalion the Manchester Regiment; Surgeon-Lieutenant E. McCarthy, 4th Volunteer Battalion the Cheshire Regiment; Surgeon-Lieutenant G. Hawkins-Ambler, 1st Lancashire Royal Engineers Volunteers; Surgeon-Lieutenant A. Renshaw, 3rd Volunteer Battalion the Cheshire Regiment; Surgeon-Lieutenant C T. Green, 1st Volunteer Battalion the Cheshire Regiment.

THE MEDICO SANITARY ASPECT OF THE SPANISH-AMERICAN WAR

Mr Carroll Dunham, writing in the *Revue Scientifique* of Jan. 7th on the medical and sanitary aspect of the Spanish-American War, repeats the often-told story of the inadequacy of the supplies forwarded to the American army in Cuba and of the failure of the transport authorities to convey the medical stores. The medical service of the Army Corps attacking Santiago had at their disposal the campaigning hospital of the first division, erected three miles east of Santiago, a hospital on the shore, and the hospital ship *Olivette* at anchor in the bay. On July 1st the hospital of the First Division consisted of three large tents for the operation tables and the pharmacy; a fourth large tent was reserved for wounded officers and half a dozen smaller tents for soldiers There were 5 surgeons with less than 20 ward attendants. The hospital was capable of receiving 100 wounded, but it had no hammock, mattress, or pillow, the number of blankets was very small, and for spare linen there were only three dozen shirts. There was no food whatever for the patients except a little extract of meat and condensed milk brought in the luggage of one of the surgeons As for the means of transport, there were only three ambulances in the whole army. The wounded commenced to arrive at 9 A M on July 1st They lay on the grass exposed to the tropical sun by day and at night they took cold. The surgeons were on their feet twenty one hours without rest, working all day, and at night by candle light, fired at by Spanish riflemen perched in the trees. Malaria was inevitable and yellow fever was introduced by refugees from the town. Things were not much better on the way back to America: The first ship, the *Seneca*, arrived at New York with about 100 sick and wounded.

The condensers could not provide enough fresh water so the wounds were washed with sea water and the passengers had to tear up their shirts to make dressings. The *Concho*, provided with 58 beds, arrived on July 29th with 172 sick and wounded. She had on board one medical officer who was himself suffering from illness and with him there was one hospital attendant.

THE ROYAL ARMY MEDICAL CORPS.

The *Army and Navy Gazette* of Jan. 7th, in dealing with the history of the military year, 1898, makes the following remarks: "The Army doctors have had their hearts gladdened, after years of vigorous agitation, by the issue of a Royal Warrant according to them the right of bearing military titles, whilst the old Medical Department, lately the Medical Staff, is now constituted a Royal Army Medical Corps. What the effect will be in attracting young men to the service remains to be seen, but at any rate some of the most pressing wants of the gallant and devoted body of men who are charged with the care of the sick and wounded have been met and Lord Lansdowne has thus earned the gratitude of the profession at large. It is for the profession of medicine now, the heads of schools before all, to show a proper appreciation of favours and assist the War Office to secure candidates in every sense suitable. If this is done we have no doubt the military authorities will even go farther than they have at present in their endeavours to make the position of the Army medical officer comfortable and attractive. The future of the Army doctor now depends largely on the Army doctor himself and those who have influence over him outside the service. All the War Office for the moment can do is to watch events and be guided by the action of those to whom it looks for support. The support of which we speak ought certainly to be forthcoming."

THE SOUDAN EXPEDITION.

Since the occurrence of the battles at Atbara and Omdurman the remaining portion of the Dervish force under Ahmed Fedil has been attacked whilst crossing the Nile and badly defeated by Colonel Lewis, in command of the 10th Soudanese and some irregulars. We infer from Lord Cromer's speech to the Soudanese chiefs and sheikhs regarding the future policy of the Egyptian and British Governments that the conquered country is to be divided into districts and temporarily administered under resident military officials, very much as is done in India. We are naturally glad of this because it is what we have already indicated as in our opinion the best course. A few years' peace under such administration and government, will bestow a degree of prosperity, health, and happiness on the dwellers in the Soudan which they have not known for many years past—if they have indeed ever done so before.

THE ARMY MEDICAL SERVICE.

The announcement in the *London Gazette* of Jan. 10th of the new titles conferred upon medical officers serving at the Headquarter Office of the Army Medical Service was no doubt a cause of more or less surprise. Our interpretation of its object is, however, that it is simply with a view of placing the medical service upon a similar footing to that of other branches of the military service by assimilating the titles of medical officers in the Director-General's office to those of other military officers holding staff appointments in the War Office. The announcement in question, given on the previous page, is:—

Army Medical Service.—Surgeon-General W. Taylor, M.D., C.B., to be Deputy Director-General. Lieutenant-Colonel W. L. Gubbins, M.B., the Royal Army Medical Corps, to be Assistant-Director. Majors W. G. A. Bedford, M.B., and W. G. Macpherson, M.B., of the Royal Army Medical Corps, to be Deputy Assistant-Directors.

LEAN'S ROYAL NAVY LIST.

The eighty-fifth quarterly issue of this practically indispensable handbook is now on sale at the publishers, Messrs. Witherby and Co., 326, High Holborn, and 4, Newman's-court, Cornhill. Constant reference to its pages confirms its accuracy and the publication is now so well known as to make description unnecessary. The present issue is brought up to date and the work forms, as it has always done, a complete storehouse of reference with regard to our first line of defence.

THE APPOINTMENT OF MEDICAL OFFICER ON THE NEW VICEROY'S STAFF.

Lieutenant-Colonel H. Fenn, of the Royal Army Medical Corps, went from Calcutta to Bombay on the arrival of Lord Curzon in order to take up his appointment as Medical Officer of the Viceroy and his Staff.

NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the Directors of the Naval Medical Supplemental Fund, held on Jan. 10th, Inspector-General W. H. Lloyd, M.D. St. And., in the chair, the sum of £65 was distributed among the several applicants.

THE AMEER OF AFGHANISTAN.

The Ameer, according to recent intelligence from Cabul, is stated to be seriously indisposed. In the event of his death political complications and difficulties may very probably arise in Afghanistan.

DEATHS IN THE SERVICES.

General Sir James Mouat, V.C., K.C.B., on Jan. 4th, at his residence in Palace-gardens-terrace, Kensington. (An obituary notice will be found in another column of THE LANCET.)

Lieutenant-Colonel R. Macrae, Indian Medical Service, Civil Surgeon of Dacca, has been appointed Civil Surgeon of the First Class, vice Lieutenant-Colonel R. D. Murray, Indian Medical Service.

Her Royal Highness Princess Christian of Schleswig-Holstein has consented to present the prizes to the London Companies Volunteer Medical Staff Corps, on Friday, Jan. 27th.

Correspondence.

"Audi alteram partem."

VACCINATION LITERATURE.

To the Editors of THE LANCET.

SIRS,—It has been suggested to me that the members of the medical profession might give valuable help in educating the public in the cause of vaccination by allowing samples of Jennerian literature to be on the tables of their waiting-rooms where they might be seen by their patients and others. The Jenner Society will be happy to supply such literature to anyone who will apply for it. I am glad to find from communications I am increasingly receiving that the members of the profession are beginning to take a much more active part than they have hitherto done in this good work by giving lectures and addresses on the subject, by correspondence in the public papers, and by joining in debates on it. I shall be pleased to give any assistance in this direction to any who may desire it.

I am, Sirs, yours faithfully,
FRANCIS T. BOND, M.D. Lond.,
Gloucester, Jan. 3rd, 1899. Honorary Secretary Jenner Society.

"RECRUDESCENCE OF PSITTACOSIS."

To the Editors of THE LANCET.

SIRS,—I see that your correspondent at Rome sends you an account[1] of the recrudescence of this complaint in Italy. It is endemic in this country and if cases are not notified it is that they are not recognised. Something over a year ago you were good enough to publish my views upon the subject, which views I have since seen no reason to modify. Still there is a danger that the disease may spread to human beings by contact with the diseased parrots and especially so if people are uncleanly enough to put the birds' bills into their mouths. One firm of importers states in its advertisements that it receives 80,000 (eighty thousand) grey parrots a year, and I have the best of reasons for saying that these birds invariably die within six weeks of their arrival from psittacosis, a form of fever akin to typhus, and they will continue to do so until either the public ceases to buy or the supply of parrots fails.

I have called attention to this excessive mortality for years past but it still goes on and there is no doubt that there is a risk of the fever extending its sphere of destructiveness. At first it was confined to the grey parrot, but now I find evidence of its fatal effects in other birds of the same family but different species coming from West Africa, and also, quite lately, in other birds, and although inoculation failed to convey the disease to pigeons and guinea-pigs, exposing the former to immediate contact for some days with a death-smitten parrot was effective in transplanting the fever. So it may go on, and probably will, unless something is done to purify the dens to which the birds are conveyed on their arrival at the coast, the cages or crates in which successive batches are imported, and even the part of the ship in which the poor creatures are lodged during the voyage.

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[1] THE LANCET, Dec. 10th, 1898, p. 1591.

To show how deadly is the scourge and how persistent the infection people have written to me to say that they have had several (from 3 or 4 to 20) die within a few weeks of buying them, and they could not imagine why it should be so, for not only had they taken every precaution in the ordinary way but they had lost birds which had been brought over privately and which had never been near a dealer's shop. The explanation is simple. The cage in which one of these birds has died is henceforth a source of infection and can only be cleansed by stoving, all domestic methods of disinfection utterly failing to stamp out the germs of the disease which I have reason to believe has its origin in overcrowding and dirt.

Personally I have failed to trace any connexion between fever in a favourite parrot and any ailment subsequently manifested by its master or mistress, but I can conceive that such is possible; therefore it is high time that sanitary authorities should interfere and see that the "emporia" whence these birds are distributed over the country are put into a healthy, wholesome condition, or if this be found impossible that they be compulsorily closed, for humanity revolts at the thought of the wholly preventable massacre of the innocents and its possible consequences. All dealers in livestock should be compelled to take out a stiff yearly licence and their premises should be periodically inspected by competent officials who should report to a central authority vested with sufficient power to put down a nuisance of which the consequences may soon prove to be more dangerous to the public welfare than is generally supposed.

I need say no more about bird and pet stores; anyone who likes can make a tour of those in London and judge for himself or herself, but I have no hesitation in affirming that the result will be a prompt decision that something should be done, and done quickly. I find that although the lungs are affected in some cases the disease concentrates its virulence in the liver, kidneys, and more particularly the spleen.—I am, Sirs, yours faithfully,

W. T. GREENE, M.D., T.C.D., F.Z.S., &c.

Belvedere, Kent, Jan. 4th, 1899.

POISONING BY BROMOFORM.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Dec. 31st, 1893, your Manchester correspondent records a case of poisoning by bromoform in Lancaster. I think the following case may be of interest as it seems to resemble the one mentioned with the great difference that my patient recovered.

In the early part of last year my partner's five children were suffering from pertussis and, other remedies failing, he decided to try bromoform, one and a half drachms of which were put in a mixture made up to eight ounces with mucilage and water. The eldest girl, aged eight years, took one tablespoonful and the others smaller doses according to their ages; for four or five days they took the medicine and were so benefited by it that it was discontinued. On the sixth day, about 4 30 P.M., I was sent for, as my partner was out, and on arriving I found the eldest girl in the following critical condition. She was lying in a wholly unconscious state, snoring deeply. Both pupils were strongly contracted and hardly reacted to light. The conjunctival reflexes were almost lost, the pulse at the wrist was scarcely perceptible, and the heart-sounds were very weak. The face was pinched and the lips were blue. I gave two drachms of ipecacuanha wine which produced fairly free vomiting, and followed this up by a hypodermic injection of $\frac{1}{16}$ gr. strychnine and applied hot flannels over the heart. As the improvement in the child's condition was very slight I gave an injection of two drachms of whisky under the skin of the chest and an enema of strong coffee. The pupils were now more dilated and the pulse was better in strength and quality and though still unconscious the patient's general condition had improved. Her father then returned and drew my attention to a peculiar sweetish smell which was evolved from the vomit and breath and on inquiry we received the following particulars of the onset from the mother. The girl had a violent fit of coughing at 3 P.M. and was given a dose of the bromoform mixture, the last in the bottle. She then lay down. From half to three-quarters of an hour later her mother heard loud snoring issuing from the room and being unable to rouse the child sent for me. About 8 P.M. the patient recognised her father and seemed to be improving. At 10 P.M. there was a change for the worse; the character of the respiration, however, changed from the loud snoring to a soft sighing, becoming so feeble that we resorted to artificial respiration. Owing to the recurrence of the symptoms we suspected that some of the drug must be left in the stomach which we accordingly washed out with an ordinary syphon pump and noticed that the water which returned had the same sweetish smell, which smell the child's breath retained for several days. The remaining treatment through the night consisted in putting the patient near an open window, where she gradually recovered, and with the exception of a very bad headache the next day she did not seem much the worse for the misadventure.

I am, Sirs, yours faithfully,

HAROLD W. EVANS.

Littleport, Cambs, Jan. 9th, 1899.

"THE 'OPEN-AIR' TREATMENT OF TUBERCULOSIS."

To the Editors of THE LANCET.

SIRS,—Your correspondent, Staff-Surgeon Gipps, in his anxiety to emphasize the value of Alpine climates has been guilty of some exaggeration and aroused the suspicion that he knows little of the results obtained in non-Alpine sanatoria in Europe and America. Anybody who had not specially studied the subject would be led by a perusal of Staff-Surgeon Gipps's letter to believe that the open-air treatment is only possible in Alpine and other specially favoured climates. Alpine sanatoria need no puffing, but they are by no means suitable for every case of consumption, even in an early stage, and are not available for the majority of suitable cases in this country. It is therefore fortunate that exceedingly good results are obtained in non-Alpine sanatoria, which constitute by far the larger number of those in existence, and some of which are no more favoured by soil and climate than many parts of the British Isles.

The results in non-Alpine sanatoria of Germany were sufficiently good to warrant the insurance companies there in paying between three and four million marks in 1898 for the maintenance and erection of such sanatoria for the people. One of these insurance companies has published elaborate statistics of 1541 phthisical patients, showing that in such sanatoria general improvement has taken place in 85·5 per cent., local improvement in 61·1 per cent., and complete restoration of working capacity in 71·8 per cent. In 15·5 per cent. the local signs were slight on admission and disappeared during treatment; in 15·4 per cent. they were unchanged; in 42·6 per cent. the local signs were well marked on admission and greatly improved on leaving; in 13·9 per cent. the local signs remained of a well-marked character and in only 6·6 per cent. they increased. It is also shown that a large proportion of those treated in former years have remained well. This is but one out of many examples of the value of rational treatment in medically-managed sanatoria even where the climate is not ideal. For the sake of the many who cannot go abroad, owing to expense, domestic ties, and a variety of medical and other reasons, I would urge Staff-Surgeon Gipps to be less sweeping and more accurate in his statements and not try to take from such patients their best hope of recovery. To exalt the value of climate (great as it is) at the expense of medical supervision of the details of daily life is a most dangerous policy which will only lead to a further extension of the "go-as-you-please" methods which are answerable for at least half the failures. What has been done in the Sharon Sanatorium in a consumption-ridden district, and at German hill sanatoria where the weather and climate are at times far from ideal, can certainly be approached, possibly equalled or surpassed, in our own land, while many lives will thus be saved which under less careful and systematic treatment would inevitably drift to an unfortunate end.

I am, Sirs, yours faithfully,

Welbeck-street, Jan. 3rd, 1899. F. RUFENACHT WALTERS.

A QUESTION IN ANÆSTHETICS.

To the Editors of THE LANCET.

SIRS,—I think anyone reading the able article in THE LANCET of Dec. 17th entitled "On the Administration of a Certain Mixture of Chloroform and Ether in Gynæcological Operations by Means of a Clover's Inhaler without the Bag" must be struck with one idea—namely, if the long ago admitted advantage of a combination of ether and chloroform is so safely and easily given in a "Clover," how is it that the London anæsthetists do not use it for this purpose and why are some of them experimenting with an elaborated instrument such as has been described in the Transactions of the London Society of Anæsthetists? We are usually taught to carefully avoid giving $CHCl_3$ in a closed apparatus of any kind. Have we to reconsider this point? I think most medical men have satisfied themselves that chloroform is a dangerous anæsthetic and to give ether without gas is almost cruelty, for all patients describe the first half minute of the administration as truly awful, and then the after nausea and pain in the throat are most disagreeable. I think the London anæsthetists owe to the profession a definite criticism of the above-mentioned paper for or against it.

I am, Sirs, yours faithfully,

St. Day, Cornwall, December, 1898. E. H. WORTH.

OPIUM-SMOKING.

To the Editors of THE LANCET.

SIRS,—I implicitly recognise the superior wisdom of your reviewer who in THE LANCET of Dec. 31st, 1898, meets every statement in a recent book of mine somewhat in the manner of Mr. Burke's celebrated colleague—by a flat contradiction. Still, he makes one assertion so opposed to the experience of all who have any practical acquaintance with the subject that I think he should condescend to furnish some corroboration. I remarked that opium cannot possibly be smoked like tobacco, every particle of alkaloid being thus promptly burnt up and not volatilised. That, he says, "is contrary to the experience of many." Will he kindly give his authority *or cite a single instance in* which a person has felt the slightest opium influence by smoking opium in any other way than with the one form of pipe perfected by generations of Chinese? He may have been misled by the popular fallacy that Manilla cigars are soaked in laudanum, but has no right to publish that as scientific fact.

The inhalation of the volatile opium alkaloids under medical supervision is a therapeutic power of high value hitherto unduly neglected. Without *recapitulating* all the maladies in which it is of use it may suffice to say that pain of every kind is relieved by the anodyne effects, chronic wasting disease of all species by the capacity to check tissue-waste. The latter point indicates its employment in advanced age to promote longevity. Hence if your reviewer can indicate some easier method than the rather delicate technique of the ordinary opium apparatus of procuring these benefits he will confer a boon on many such sufferers.

I am, Sirs, yours faithfully,

HERBERT SNOW.

Gloucester-place, Portman-square, W., Jan. 3rd, 1899.

⁂ In expressing our dissent from Dr. Snow's statement that if opium be smoked like tobacco all the essential principles are burnt up and none inhaled we based our opinion chiefly on our personal knowledge of cases in which the usual anodyne and hypnotic effects of the drug have followed its administration in this manner. The superiority of the Chinese method of smoking opium consists in the fact that when it is employed a much larger proportion of the active principles is inhaled than when the drug is smoked with tobacco in an ordinary pipe.—ED. L.

MILITARY SERVICE FOR MEDICAL MEN IN FRANCE.

To the Editors of THE LANCET.

SIRS,—May I correct a mistake that was made in THE LANCET a few months ago? The period of military service is not three years for University students. The medical student is obliged only to serve for one year; the two remaining years are due only if he is not *docteur ou interne* at the age of twenty-seven years, which happens very seldom indeed.

I am, Sirs, yours faithfully,

HENRY COINTEPAS,
Externe des hôpitaux de Paris.

Rue Franklin, St. Denis-sur-Seine, France, Jan. 5th, 1899.

THE CONSCIENTIOUS OBJECTOR.

To the Editors of THE LANCET.

SIRS,—Since the appointment of the Royal Commission, although there is at present a lull in the storm, the cost to the country from small-pox has been enormous, to say nothing of the dreadful suffering and deaths (known only to those who witness them), and now vaccination costs more than double and is rendered inefficient. No wonder, therefore, that boards of guardians are flatly refusing to carry out the Act. Will our non-conscientious legislators take any steps towards remedying the error they have committed? It appears to me the least they can do, and that without a day's delay, is to pass "an Act to amend the Vaccination Act." No doubt when the conscience clause was passed it was thought that the magistrates who had no votes to lose would act as a buffer between the Members of Parliament and the anti-vaccinationists, and nice buffers they are proving themselves.

The Act reads that "they are to *satisfy* themselves that a man has a *conscientious* objection," and how are they doing it? In one instance a long row of applicants were told to *hold up their hands*, and all who did so were granted certificates. Now if the Act had been worded in such a way that certificates were to be granted to "those who had a simple objection" or "to all applicants" the magistrates would not be guilty of dereliction of duty, as they now are. With a few notable exceptions—such as Mr. Corser and Mr. Mead—they are incurring an awful responsibility by this neglect of duty. The Vaccination Act is now literally left to them to carry out and although they ought not to have been put into this position they should either do their duty or resign or, as one medical magistrate has done, retire from the bench when applications are made. Instead of that they often do not even charge the highest fees and make all the difficulty they can, but on the contrary encourage the ignorant and misguided in their wicked folly.

Vaccination is now made perfect by the new Act and instead of giving it a trial which in time would even convince a rabid anti-vaccinationist, it is being rendered nugatory. A day of reckoning will surely come, as unless the evil is at once remedied ages yet unborn will live to curse us when for want of a simple precaution there will be a return to the days of the Black Death with its fearful cordon of isolation as the only means of escape. If the plain and guilty alone suffered it would be different, but there are the comely and innocent who have to be considered when, if life is saved, disfigurement, blindness, deafness, and other sequelæ (very common in the worst form of small-pox of which this generation knows nothing) render that life worse than death.

I am, Sirs, yours faithfully,

WILLIAM WOODWARD, M.D. St. And.,
Late Public Vaccinator for upwards of thirty years
to the Worcester District.

Worcester, Jan. 10th, 1899.

"THE PAY OF COLLIERY SURGEONS."

To the Editors of THE LANCET.

SIRS,—I read with great interest your comments on the pay of colliery surgeons in Durham in THE LANCET of Nov. 12th, also on the pay of colliery surgeons in the Eastern Valleys, Monmouthshire, in THE LANCET of Dec. 24th, 1898. In the annotation on Dec. 24th it is mentioned that the Western Valley surgeons were paid better than the Eastern Valley surgeons. I can only compare the pay of the Western Valley practitioners with that of their Durham brethren as I do not know how they are paid in the Eastern

Valleys. Here they are paid by stopping twopence per week per man for every pound he earns. Taking an average for the last few years the pay has been in this part under twopence per man per week, or if we had been paid as the Durham surgeons had been paid—i.e., threepence per man per week—our income would have been considerably larger. This average does not include the six months' strike in which the medical attendance was continued and there was no pay. Twopence in the £ covers all the medical attendance and what drugs they want other than the drugs prescribed—i.e., vaseline, castor oil, &c.

I am, Sirs, yours faithfully,
WESTERN VALLEY SURGEON.

Nantyglo, Mon., Jan. 2nd, 1899.

A PRACTICAL EXAMINATION PAPER.

To the Editors of THE LANCET.

SIRS,—I enclose a copy of the paper set by the Conjoint Board in the Second Examination in Physiology as a specimen of what such a paper ought to be. The six questions give a good range of subjects, all of which ought to be familiar to the student who hopes to be a practitioner. I wish the examiners for the Fellowship would follow suit.

I am, Sirs, yours faithfully,
AN OLD EXAMINER.

[ENCLOSURE.]

1. What are the functions of the roots of the spinal nerves? By what experiments have these been determined?
2. Describe the voluntary muscle fibres. State how you would make a microscopic preparation to show their structure.
3. Describe the muscular mechanism of the respiratory movements. What influence have these movements on the circulation?
4. How can the velocity of the blood stream be determined in an artery, a vein, and a capillary? How and why does the velocity vary in each kind of vessel?
5. Describe the digestive processes that occur in the small intestine. State the parts played by the pancreatic juice, bile, and succus entericus respectively.
6. How would you estimate the urea in urine? How is urea formed in the body?

PRESERVED GLYCERINATED CALF VACCINE.

To the Editors of THE LANCET.

SIRS,—The results of the trials of calf vaccine during the year 1897 which were published in THE LANCET of April 23rd last have been valuable in proving (1) that as a general rule the average length of activity of glycerinated calf vaccine is limited to a few weeks only, during which time the activity varies inversely with the age and therefore that it cannot be relied upon for any given period, and (2) that reliable calf vaccine has been obtained during the colder months and in the heat of the summer and autumn. It also appears (from private records and observations) that certain different characteristics of the calves do not affect the quality of the vaccine taken therefrom, for example, both active and inactive vaccine have been generated upon calves of the same colour, age, weight, and sex when vaccinated with the same care, by the same person, in the same place and with equally reliable vaccine. Nor does the examination of the dead carcass yield any proof of activity of the vaccine taken from that particular animal. It therefore appears certain that with our present knowledge and experience it is impossible to produce *at will* calf vaccine which is active and will retain its activity for any definitive period, though cases appear (as if by accident) where a calf will generate fine vaccine which will retain its activity for a much longer period than is sufficient for all practical purposes. Here it may be questioned whether bacteriological investigations may not be out of place until the good quality of the vaccine has been ascertained, in order that when the bacteriologist has satisfied himself that the "extraneous microbes" have disappeared he may also be certain that the activity of the vaccine has not also disappeared, if it were ever present.

Though we are at this time unable to select with certainty an animal upon which vaccine of prolonged activity may be generated a study of the facts made evident from long experience may give us that desirable power. These facts are, first, that the more reliable vaccine is generally that which is produced in the cold months, and, secondly, that a great factor of unreliability is changeable weather. All that has been said of calf vaccine must be also applicable to human vaccine.

From these considerations the importance of being able to select such calves as will generate vaccine of the quality desired is evident and it naturally follows that to obtain with certainty perfect vaccinations in man or animal we must discover that condition in either which will reproduce in its system similar results for both cases—the patients and the animal must be synonymous. In each case the soil must be studied as well as the seed; both must be suitable for the end desired.

It is quite certain that the inability to judge of the activity of vaccine taken for storage obtains both in the public vaccinator using human vaccine and the producer of calf vaccine, for both are alike ignorant as to the reliability of the vaccine which they have stored. The more perfect mixture of the vaccine and glycerine by the invention of Dr. Chalybäus has perhaps done more to preserve the activity of calf vaccine than anything else.

I am, Sirs, yours faithfully,
A. B. C.

Dec. 19th, 1898.

*** *Our correspondent is referred to an annotation on* p. 107.—ED. L.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague Commission at Hyderabad.—The Progress of the Epidemic.—The Report of the Austrian Commission.

THE Plague Commission held their first sitting in *Hyderabad on Dec.* 19th, 1898, when Lieutenant-Colonel Lawrie, I.M.S., Mr. Stevens, Dr. Mullanah, and Captain Johnson, I.M.S., were examined. Lieutenant-Colonel Lawrie first described the measures which had been taken in the Nizam's dominions to stamp out the epidemic. The disease was probably conveyed into this district by refugees from Sholapur. The measures were (1) evacuation of the infected villages, (2) destruction of the infection by burning the floors and walls (surfaces) of infected houses by fire, and (3) disinfection of useless clothing and bedding by burning and of bedding and clothing generally by boiling. Lieutenant-Colonel Lawrie was a strong advocate *for disinfection* by fire for the following reasons: (*a*) it destroyed the infection of the disease; (*b*) it cost the Government nothing except for supervision, the people willingly employed it themselves under (our) trained agents and workers; (*c*) it was popular with the villagers and ryots; and (*d*) it not only destroys infection but it also destroys the food the plague microbe likes and by which it is kept alive and toxic. The people remain in their camps and do not scatter themselves to spread the disease over the country. Lieutenant-Colonel Lawrie stated that rats inoculated with floor scrapings in which the bacillus was found died with all the symptoms of plague and the same bacillus was discovered in their glands and blood. He asserted that the plague bacillus could be separated from the dust of floors in plague-infected houses. He recounted one result of his visit to Bombay where he discovered the plague germ at one hospital in the ground where an old man had lain for several days beside the cot of his sick grandchild and had then contracted plague and died. A rat which was inoculated with a solution made from this floor scraping developed the symptoms of plague and died. The same bacillus was found in its tissues and organs.

With reference to Haffkine's fluid and inoculation for plague Lieutenant-Colonel Lawrie made some extraordinary statements. He said that Haffkine's fluid was not a serum but a putrescent *organic liquid*—a putrid broth containing a large number of the micrococci of putrefaction and occasionally pathogenic organisms. He said he could not conscientiously recommend it and he did not consider it right to perform such an operation as inoculation with a fluid containing putrid organisms. He said that what was practically compulsory inoculation led to the spread of plague by causing people to fly from their homes. He was aware that there were other bacilli which closely resembled the plague bacillus morphologically but he did not know that such bacilli were commonly found in water and in soil. He admitted that large doses did protect rabbits to a considerable extent.

With regard to this evidence it may be said that inoculation has been everywhere absolutely voluntary and it has been stated over and over again in official notices that inoculation is entirely optional. Lieutenant-Colonel Lawrie implies that the fluid used is not sterile and that no proper experiments have been made to ensure this (which is incorrect). According to Lieutenant-Colonel Lawrie the inoculation fluid of M. Haffkine is calculated to produce blood-poisoning, abscesses, and ulceration. As a matter of fact it does not. In Bombay alone over 32,000 persons of all classes and races have been inoculated and not one has been overtaken by the dire results attributed by Lieutenant-Colonel Lawrie to inoculation. It is obvious that had the fluid been found to contain the organisms of putrefaction it would have been prohibited immediately. Moreover, the Director-General who was himself inoculated has reported to Government after extensive inquiry that its results are most encouraging. Dr. Yersin was supposed to have found plague microbes 7 in. below the soil but these Dr. Bitter said were not plague microbes at all. Others have tried to find them and have failed. Every one knows that the Government have not been hasty in judging of the effects of inoculation and were Lieutenant-Colonel Lawrie's statements even partially true the operation must have been condemned long ago. Mr. A. H. Stevens, the Deputy Plague Commissioner, said that the Nizam's Government remained in absolute ignorance of the outbreak of plague in Hyderabad territory until about two months after its actual appearance. The difficulty in plague work is to obtain early information. He said that the villagers fully recognised the value of evacuation which had been carried out in every village infected with plague. The method of disinfection which he had employed with apparently great success was the kiln method of burning the floor surfaces and of burning and boiling the bedding and clothes. The method destroys infection, costs little, and is popular.

The plague returns for the Bombay Presidency show very little improvement, there being 2697 deaths recorded as compared with 2728 the week previously. In Bombay city there were 106 deaths from plague as compared with 75 in the week preceding. Karachi does not seem to be able to absolutely clear itself, a new case now and again appearing, and Poona also reports two fresh attacks and deaths. The Poona district generally shows higher figures. It is reported that at railway stations where medical inspections take place 24 cases only were detected. After a long interval which led to the hope that plague had disappeared from the Punjab 2 more cases have occurred at the town of Rahon in the Jullunder district. At Bangalore on Dec. 18th Professor Wright of Netley, a member of the Plague Commission, inoculated some 250 men and officers of the 2nd West Riding Regiment against enteric fever.

The portion of the report of the Austrian Commission of most interest is that containing the late Dr. Müller's conclusions concerning the pathology of infection. He thought that the disease originated in an infection through the skin which remained localised for a time, but that primary plague pneumonia unquestionably entered through the respiratory passages. He contended that in all cases (except, perhaps, the pneumonic) there was glandular swelling, although the primary bubo might not be discoverable. Dr. Müller did not agree with those who held that in all cases of recovery the bacilli remained localised in the swelling and did not invade the blood. He said that "a patient does not die because he has bacilli in his blood and does not recover on account of their absence." He thought that whether the organism would triumph over the disease depended upon the degree of natural power it possessed against the poison of the plague. He said that general infection (of the bacilli) had occurred in patients who had recovered. (Most authorities hold that the presence of bacilli in the blood is a certain sign of a fatal termination.) Those who hold Dr. Müller's views—viz., that it matters little whether the bacilli invade the body or not—are opposed to interference with the gland, to experimental punctures, to large incisions, and to clearing out the contents. The theory of infection through the skin has had careful attention and it is only in a small proportion of cases that likely spots of entry have been discovered. The natives with naked legs get enlarged glands in the groin in about 66 per cent. of cases, but those who cover their feet and legs get the glands in the groin enlarged in about the same ratio. Moreover, the inguinal glands are affected as often as the femoral. The bacilli are seldom *found in the blood* except a few hours before death. As the buboes suppurate in a very large proportion of cases and many cases die from pyogenic infection the *object of opening* the buboes when softening (from sloughing or suppuration) has occurred is to diminish the dangers of other poisoning. Plague cases that live long enough for the glands to suppurate seldom or never die from plague. The plague bacilli seem to disappear from the glands under the influence of sloughing or suppuration. There is more to be said against Dr. Müller's theory than for it. The bacilli are probably localised at first and the toxin of plague is derived from the local manufactory and may or may not kill of itself. Pneumonic cases have not the bacilli so localised and are almost invariably fatal. When the bacilli for some reason become generalised the case is probably without doubt fatal, although it is conceivable that some subjects may have sufficient resistance to overcome even this invasion.

Dec. 24th, 1898.

ABUSE OF THE IRISH MEDICAL DISPENSARIES.

(FROM OUR SPECIAL COMMISSIONER.)

IN dealing with the new Irish Local Government Act in THE LANCET of Jan. 7th details were given concerning the appointment of the dispensary medical officers who throughout Ireland attend on the poor. The selection of these officers, based on religious and political views rather than on the technical competence of the candidates, is a grievance which affects the public interest, though the public manifest very little concern in the subject. It is to their advantage that the best men should attend to the sick and to the sanitation of the district, for the dispensary medical officer is generally also the medical officer of health. The elections, however, as already fully explained, are not contested on this basis. But whatever fault may be found with the method of selection the dispensary medical officer when appointed should be treated with common humanity and common fairness. This, however, is often not the case. The work which he has to do is frequently so heavy as to be almost beyond endurance. It is not so much the number of patients who have to be seen but the enormous distances that have to be gone over in all weathers. The ground is rough and the cottages may be dotted about amid hills and mountains. A Local Government Board report sets forth that some of these districts measure 25 × 12, 18 × 13, 25 × 10, and 21 × 11 miles. These are, of course, the largest districts—those in which the population is most scattered and sparse. Other districts are not half of the size. The dispensary medical officer generally arranges to be in attendance in different parts of his district on certain days of the week. At these centres he has a dispensary cottage or, in any case, a room kept ready for him to receive the patients who live in the neighbourhood. These are as it were out-patients; they come to him not at his home, but to the dispensary cottage in their part of his district. Such patients are bearers of white tickets and constitute probably about 80 per cent. of the total number of cases. They need not be seen at their own homes or at other than the appointed hours. When, however, a red ticket is presented to the dispensary medical officer he is obliged to go at once to the patient's house, however far that patient may live or, whatever the hour of the day. No matter what private business he may have the dispensary medical officer must put all aside to attend to the red ticket. All his other and paying patients must be neglected so as to obey the red ticket summons. As one dispensary medical officer put it to me, "Why, I should have to abandon the Lord Lieutenant himself rather than keep the owner of a red ticket waiting."

The distribution of these red tickets which thus hold the dispensary doctor in a state of thraldom naturally constitutes a precious power of patronage. The dispensary committees have not only the appointment of the dispensary medical officer, but as they are the principal distributors of the tickets, white and red, the members of this committee likewise decide who shall be his patients. As many of the dispensary committee-men are roadside shopkeepers and publicans the distribution of tickets entitling the holder to medical advice and medicine free of charge is most useful to these tradesmen. It enables them at the cost of the medical officer to render a service to their customers. The Poor-law regulations say that the dispensary medical officer must attend any poor person who has received such a ticket, but though petitioned on the subject over and over again for the last forty years the Poor-law authorities have persistently refused to define what constitutes a poor person. Thus if a farmer in a good position, with several hundred pounds in the bank, sends to his grocer for a ticket for his child it is easy to understand that the grocer would not refuse the ticket on the ground that the farmer is not a poor person. The farmer undoubtedly is not a poor person, but the grocer knows that he is a good customer and that is by far the most important consideration. It is not the grocer's business to defend and protect from abuse the professional interests of the dispensary medical officer, but it is his business to sell his groceries and with this in view he would not fail to oblige a customer. With the publican the same arguments apply as with the grocer. He has also his customers to oblige. So much is this the case and so frequent are the demands for tickets that he often leaves a blank ticket book in the hands of his potboy, a youth often sharp and vivacious but who is still less likely to trouble himself about the position and economical interests of the medical profession. Under such circumstances no trouble whatever is taken to prevent abuse. Most of the well-to-do cottage farmers are on the rates as dispensary patients. In certain districts there is absolutely no private practice of any description whatsoever. Farmers who have ample means issue tickets for their own children. The dispensary medical officer, practically speaking, has no redress. In theory, when he finds that a patient can pay he may bring the matter before the next meeting of the dispensary committee and they have the power to cancel the ticket. This sounds plausible, but though the committee should meet every month it frequently does not come together for three or four months and by that time the patient in all probability will be either dead or convalescent. Then the meetings of the dispensary committees are often most unbusinesslike and informal. They sometimes consist of a little conversation held between committee-men by the side of a car or standing under a hedge. If the medical officer has a case of abuse he must find out the precise car or hedge where his committee-men are meeting, and in such an uncomfortable position they are not likely to listen to any lengthy exposition of grievances. Besides, what is there in common between the thoughts and work of the small farmer, of the grocer, the publican, the village huckster, and the members of the medical profession? Yet these are the class of men who constitute the dispensary committee and who appoint the dispensary medical officer, and if the latter has a complaint to make he must bring it to the notice of the very persons who have committed the abuse. It is not likely that the committee will blame one or more of their own members.

The financial is not the only side of this question of abuse. Sometimes a dispensary doctor is called away from his home out of sheer malice. A rancorous committee-man can destroy the medical officer's professional life. If the latter is a poor man his committee may tyrannise over and humiliate him on innumerable occasions. A common method of destroying a medical man's peace is so to contrive the distribution of red tickets that he can never remain at home. Boys with red tickets are set on watch. No sooner has the medical officer returned and is about to sit down to his dinner than a boy enters and presents the red ticket. If the practitioner does not set forth at once there are enemies watching who have timed the entrance of the boy to deliver the ticket and the departure of the medical officer to see the patient. Perhaps the patient lives in some distant village. Then when the medical officer has returned home from the long journey another red ticket from the same village is delivered to him. He might have seen both patients at his first visit to the village, but great care is taken so to time the delivery of the tickets as to compel him to do the journey twice over. It will easily be understood that with the exercise of a little ingenuity and a great deal of malice a committee-man by the issue of red tickets could render the dispensary medical officer's life quite unbearable and this I am assured has been done more than once.

Nor are such abuses confined to rural districts. One of the Dublin dispensary doctors complained to me of the distribution of tickets by whisky-sellers. He found also that tickets were given to servants in the employ of wealthy families and these were a class of patients for whom at least a small payment could be made. Among his dispensary patients he had the wives and families of several coal-dealers. These people often looked poor enough though the husbands would be making from £2 to £3 a week. The wives, however, frequently got only about 10s. a week on which to keep house and hence the squalor and the readiness with which they obtained dispensary tickets. But why should medical men have to attend gratuitously on the families of men who spend nearly all their money on drink? In his opinion, at least a quarter of the red tickets issued in Dublin constituted cases of abuse.

An absurd theory was propounded by the Irish Local Government Board that the dispensary medical officers were not entitled to the same consideration and similar pensions as other civil servants because they did not give up their whole time. This is a great fallacy. It is the ordinary civil servant rather than the dispensary medical officer who does not give his whole time. He has his office hours but afterwards he is absolutely free and his own master. Not so with the dispensary medical officer for he may be called out at any time of the day or night. The dispensary medical officer who was describing this situation to me related how on one Christmas day he was called out three times to see three different patients who were in each case suffering from typhus fever. At the same time this medical man told me an anecdote concerning the dispensary medical officer at Markethill in the north of Ireland. This medical officer was ill when a messenger came and offered him two guineas to go to see a patient who lived at a considerable distance. He replied that he was too ill to go out and that he preferred to lose the two guineas rather than to run the risk of aggravating his condition. The messenger replied that he would have to go all the same. The patient thereupon procured a red ticket, and as the practitioner could not obtain a medical certificate entitling him to refuse his services he had to go though in so doing he risked his life and (as the patient had now got a red ticket) could not claim the two-guinea fee which had been previously offered but was obliged to attend the patient for nothing. The legend that Irish practitioners will not see any patient unless they receive a guinea fee has done much to destroy the sympathy which would otherwise have been felt for the dispensary medical officers. But it should be understood that this guinea fee covers several visits and is therefore not an extravagant charge. Nevertheless it provides many people with a pretext to go about begging for dispensary tickets; also there is often a singular want of pride among many people and they do not seem at all to object to account themselves paupers if they can save even a small sum of money.

On Nov 6th, 1896, Sir William Thomson, when president of the Dublin Medical Association, headed a deputation in the interests of dispensary medical officers which waited upon the Chief Secretary for Ireland. All the medical licensing bodies were represented. Mr. Gerald Balfour then said that the desirability of giving dispensary medical officers a pension was recognised in principle but that the precise method of so doing had not been settled. In England medical men worked for very low fees. In Ireland medical men claimed a guinea fee and this must be altered before the red ticket system could be reformed. Then the Government had to take into account that in spite of the hardships endured by the dispensary medical officers there were plenty of medical men who eagerly competed to obtain such posts. Mr. Balfour would like to see them better paid but he did not know how he could interfere with the local authorities of Ireland. Mr. Morley and other Chief Secretaries for Ireland have answered similar petitions in the same manner. It is the stock reply duly prepared by the Irish Local Government Board and reproduced on suitable occasions for the use of either Liberal or Conservative Chief Secretary. Party politics make no difference in the unsympathetic attitude of the Irish Local Government Board towards the medical profession. The Chief Secretary for Ireland whose tenure of office is but temporary and as insecure as the fate of the party to which he belongs knows little or nothing about these matters. But the Irish Local Government Board is a permanent institution and these grievances have been brought before it over and over again. The Board itself should have made proposals for reform. Sir

William Thomson mentioned a district which measured a hundred square miles where there was but one dispensary medical officer and he was seventy years old. He could not retire, for the population was so poor that it was impossible to get any private practice. These are facts well known to the Irish Local Government Board, but that Board has never moved in the matter. The policy seems to be not to deal with any question unless absolutely forced to do so, and unfortunately the medical men in Ireland are lacking in cohesion; they do not work together as a body. Such efforts as have been made to unite the profession have so far failed and therefore there has not been a strong enough pressure brought to bear upon the Irish Local Government Board. While the medical men are content to submit to unjust treatment the Government will not go out of its way to redress the grievances of the dispensary medical officers.

The reform which many medical men themselves desire is that the dispensary medical officer should become a civil servant in the employ of the Government and not of the local authority. Candidates should be subjected to a special examination in regard to public health questions and as to their capacity to act as surgeons for the police, the prisons, the bridewells, the coastguards, &c. These functions added to the duties of dispensary medical officers would constitute a fair total income, making it worth while for high-class men to apply and to qualify for the special duties. As it is the local authorities only pay half the cost of the medicines and the salaries of the dispensary medical officers. The other half is paid by the central authority, therefore the Local Government Board of Ireland has as much right to nominate as the local authorities. If Ireland is to be civilised from the sanitary point of view it would be worth while for the Exchequer to pay more than half the cost so that the central authority could appoint men who would be competent and independent of local intrigues and pressure. This is more needed in regard to public health than in respect of the abuse by which medicine for others than the poor is obtained out of the rates. The Poor-law guardians and the dispensary committee-men are themselves often the chief offenders. They distribute both white and red medical relief tickets to their well-to-do customers and to their own families and otherwise commit abuses. They often set sanitary laws at defiance and have sometimes even been paid for their votes in the election of a dispensary medical officer. Under these circumstances these petty local bodies should be deprived of the power of nominating and tyrannising over the dispensary medical officers. They have given sufficient proof of the improper use which they make of such powers. For instance, according to the Act a medical officer should receive a guinea for attending a court in regard to a prosecution or to obtain a magistrate's order for compulsory burial, &c. But now it will be seen on referring to advertisements that the local authorities require applicants to contract themselves out of these advantages. Thus, for instance, the Rathdrum Union, Aughrim Dispensary district, recently advertised for a medical officer and the advertisement stated that the salary would be "£120 a year as medical officer and £15 a year as medical officer of health, such salaries to be taken to include remuneration for all services rendered under the Labourers Act and Sanitary Act as well as the Medical Charities Act, and the payment of a substitute when the doctor is absent owing to other cause than ill-health caught in the discharge of his duties." Again, the Sligo Union advertised for a medical officer for the Cliffoney Dispensary district. The salary was £100 and £20 more as medical officer of health, together with the usual vaccination and registration fees. Then comes this clause in the advertisement: "The person appointed must attend and give evidence in all sanitary prosecutions instituted by the sanitary authorities without any additional remuneration." It need scarcely be explained that these conditions will tend to reduce the number of prosecutions. A medical officer of health who only receives £20 a year cannot be expected to spend many days in law courts. But if he received an extra guinea for each case there might be some chance of prosecutions being instituted. As explained on a previous occasion the local authorities are, in the main, desirous of preventing any sanitary reform. The advertisements quoted above are evidence of the little concern felt in this respect and are in direct opposition to the spirit of sanitary legislation since they call upon the candidates to contract themselves out of the Sanitary Act. The Legislature, to encourage the prosecution of persons who offended against the laws of health, stipulated that the medical officer who gave evidence, &c., should receive a fee of a guinea. But the Sligo Board of Guardians sets itself above the Imperial Parliament and Government. It says that the medical officer shall not receive these guinea fees and by such an act it seems anxious to discourage instead of encourage prosecutions under the sanitary and other laws enacted for the benefit of the public health. Such advertisements should awaken the attention of the Government for they certainly suggest a desire to avoid applying the laws of the land. But they also indicate that there is good reason for not trusting these petty local bodies with the appointment of such important functionaries as the medical officers of health and the dispensary medical officers.

Then, again, in most other occupations the salary increases, but this is not the case with the dispensary medical officers and no difference is made between junior and senior officers. Thus a dispensary medical officer for a Dublin district told me that he was appointed thirty-five years ago and yet he receives to-day identically the same salary as he did on the first year of his appointment. Indeed he is, if anything, poorer, for money is now cheaper than it was when first he came into office. If, however, the appointments were in the hands of the central authority young men could be sent at first to the less important districts and as they gained in experience they might be promoted to more important and better paid districts. Thus a spirit of emulation would be engendered and there might at last be reasonable hope of seeing the public health laws applied with some show of vigour. Then when there were cases of abuse the dispensary medical officer would not depend on the local authority for redress. Even in Dublin tickets for dispensary medical attendance can be obtained from publicans or their potboys. One medical officer told me that he had to attend the family of a man who was earning £5 a week. Well paid workmen who are able to keep greyhounds for racing purposes also rank among his dispensary patients. It was of no use protesting—these people did not care. They would not even join a benefit society and pay a penny per week for medical aid. The relieving officers also gave tickets and seemed to think that they could not refuse them. Yet theoretically the person who gives a ticket for dispensary medical attendance is supposed to make an inquiry and to assure himself that the patient cannot afford to pay a practitioner's fee or to join a provident dispensary or benefit society. In view of all these facts it is evident that the system of dispensary medical aid is grossly abused, that it works most unsatisfactorily, and that sweeping reforms are urgently needed. The Irish Medical Association has brought this matter forward on several occasions, and though these efforts have met with but little success they must be continued and with even more energy.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Hospital Sunday Fund.

A MEETING of the committee of the Hospital Sunday Fund was held on Jan. 5th under the presidency of the Lord Mayor (Alderman Beale). The report showed that there was an increase in the total number of places of worship contributing, being 280 as compared with 254 in 1896, when, as now, the collections were given to the General Hospital. The gross receipts for this hospital in 1896 amounted to £4422 1*s.* 10*d.* and this year to £5245 15*s.* 8*d.* The Lord Mayor expressed the hope that the movement might be placed on a basis which would appeal in a broader spirit to the whole of the people and contrasted it with the Hospital Saturday movement. Still, it was satisfactory to know that the number of life governors and annual subscribers had been increased. It was pointed out that the expenditure of the General Hospital for the year ending Dec. 31st was £23,870, and towards that sum the committee had received £17,993, thus leaving a deficiency of £5877. They had received that day £4800, but they could only apply one-third of that sum toward the expenditure of the past year, still leaving a deficit.

Poisoning by Hyssop.

A singular case lately formed the subject of a coroner's inquiry where a pregnant woman made an infusion of a pennyworth of hyssop after taking which she died. She was stated to have been in bad health and the subject of Bright's disease It is generally believed that the plants of the order to which this belongs—the Labiatæ—have no deleterious qualities, being carminatives and antispasmodics However this may be as a rule, the medical witness at the inquest expressed his belief that the hyssop was the cause of the patient s death and the jury adopted his opinion, returning a verdict accordingly.

Electric Light at the Queen's Hospital

The out patient hall of the Queen's Hospital had the electric light service inaugurated on Jan 6th An installation of 350 sixteen candle power incandescent lights was provided and pronounced a great success In addition, all the medical and surgical officers rooms, the theatre, the chapel, and the administrative departments are fitted with the same kind of light

Adulteration of Gin

At a local police court on Jan 3rd a publican was summoned for selling gin two degrees under the proof allowed by the law The public analyst for Warwick said that he was unable to give the exact percentages of water and alcohol with the quantity of added water The report of the analyst for the county of Worcester showed that the gin was 33 45 under proof and was therefore over the maximum standard of proof allowed by law The defence submitted that the certificate should have given the percentages of water and spirit and it was therefore contended that there was no case as the certificate did not comply with that requirement The case was dismissed

Jan 10th

MANCHESTER

(FROM OUR OWN CORRESPONDENT.)

The Purification of Gas

THOUGH gas is so great a convenience that even now with electric lighting on all sides the civilised world would be the worse for its extinction, it must also be said that its impurities render it a great nuisance In Manchester the large proportion of sulphur in the gas has for a long time been an annoyance and a reproach and it seems as if there were a prospect of its being still further increased A question was asked at the last meeting of the city council as to what steps, if any, were being taken to reduce the abnormally high proportion of sulphur in the gas delivered, and an ingenuous alderman said that there was no danger of the matter being overlooked "It had had the serious attention of the gas committee ever since he had been a member' However serious the attention may have been it cannot have been serious enough, for it has not removed the sulphur And then another alderman, the chairman of the gas committee, rose up in his place and said that after much inquiry they had adopted a different process of carbonisation of coal— 'the regenerator process"—which had been extremely satisfactory from an economical point of view, for they got 500 cubic feet more of gas per ton of coal carbonised "But unfortunately it brought in its train a very considerable increase of sulphur," and as according to the scientific authorities "there was only one mode of purifying the gas from sulphur, and that was by lime, they would have to adopt the lime process" He thought they would be able to get a market for the lime and "that the Ship Canal would be of use in this respect' It is to be hoped that it will not be used to poison the fish at the mouth of the Mersey It is a pity that the chemists who are great at the production of sulphuretted hydrogen, cannot find some less cumbrous method of dealing with it.

Northwich and its late Medical Officer of Health

An occurrence took place at Northwich recently which emphasises the desirability in the interests of justice and fairplay and also of the public weal of delivering medical officers of health from having their tenure of office subject to the caprice or self interest of local cliques It is reported in the *Manchester Courier* of Jan 7th that "a heated discussion took place at the meeting of the Northwich Rural Council yesterday with reference to the discharge of Mr Garstang, who for three years had occupied the position of medical officer of health of the district" The Local Government Board, having "been asked to sanction the appointment of Mr Gough wrote for the observations of the authority upon a letter received from Mr Garstang, in which he said he feared his future prospects might be damaged unless some explanation of the council's last action was afforded' The clerk submitted the draft of a letter saying that there had not been the slightest intention of casting any reflection upon Mr Garstang. After a warm debate, during which it was urged by several members "that the only reason that could be adduced for the discharge of Mr Garstang was that he had done his duty too honestly and fearlessly," it was decided that no reasons should be given—which it is quite easy to understand as there seems to have been none to give—"and the simple form of reply was accepted by 14 votes to 8" In far too many places the medical officership of health is robbed of all its value as a safeguard of the public health from its being held at the mercy of those who may consider that a regard for their own supposed interests is a higher, or at all events a stronger, motive than regard for the life or health of their neighbours It may be hoped that they are not always in the proportion of 14 to 8 over the conscientious members of the rural councils and that sometimes ignorance may be the mainspring of their actions, but however that may be the too frequent result is that if he does his duty the medical officer of health soon receives notice to quit

Jan 10th

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS)

Opening of the New Wing of the Longmore Hospital for Incurables, Edinburgh

ON the afternoon of Jan 5th Her Grace the Duchess of Buccleuch performed the ceremony of opening the new wing of the Longmore Hospital The Marquis of Lothian presided at the ceremony and in opening the proceedings he gave a short outline of the progress of the institution The central part of the hospital, which was the first part erected was opened in 1880 The present east wing was opened in 1891 by the Duke of York and Princess May, at which time a children's ward was established The directors had been enabled to meet the expense of the present extension by the liberal bequest of Mr Peter Waddell The work of the institution had been begun in 1875 with 22 patients, now they had accommodation for 150 patients Mr J A Wenley, chairman of the house committee, referred to the history of the hospital and to the various legacies and donations which had enabled the directors to carry forward the work of the institution In addition to the new wing they had a new laundry a new kitchen, a new chapel and mortuary, and the whole building was now lighted by electric light The cost of all these improvements had been about £25 000 The working expenditure of the hospital had largely to be met from annual subscriptions and as the amount necessary for keeping it up would now be increased they would have to rely on the generosity of the public to meet this increase To carry on the new wing they would need about £600 annually in addition to their former revenue The Duchess of Buccleuch, after speaking for a few minutes, declared the new wing open Mr D M Westland, on proposing a vote of thanks to the Duchess, presented her with a small key made of Scottish gold The new wing, two storeys in height with a basement, is attached to the main building by a wide corridor of iron and glass The ground floor is set apart for phthisical patients, while the upper floor is intended for the reception of cases of cancer The kitchen premises have been reconstructed and additional rooms have been provided above the kitchen for the nursing staff The new washing houses and laundries are in a separate building and the drainage has been entirely remodelled, iron pipes having been substituted for fireclay ones The main drains and connexions are placed in subways so as to be easy of access, and the drainage subway has been utilised to give access to the mortuary buildings which are placed at the Causewayside entrance to the hospital grounds. They consist of a post mortem room-

Diagnosis, accuracy of, modern advance in, 243; bacteriological, 1663
Diagnosis wanted, 846, 1240
Diamond, Mrs., the late, 509
Diaries, 1710
Diarrhœa in Manchester, 509; infantile, 943; summer, with enteritis, 1059; summer, in children, 1128
Dickinson, Mr. W. G., the Royal College of Surgeons of England, 1435
Dictionary of National Biography (review), 936
Digestion in the newt, 453
Digestion, The Natural History of (review), 1409
Digitigrade animals, fractures and dislocations in, 859
Dimmock, Brig.-Surg.-Lieut.-Col., plague, 451
Dingle, Dr. C. V., efficiency or compulsion? 267
Dinner to Dr. W. S. Playfair, 103; to Professor Virchow, 705, 947, 955, 1075; to Mr. D. E. Flinn, 967; to Dr. C. J. Cullingworth, 967; to Mr. W. G. Grace, 1677
Dinners.—Epidemiological Society, 37; British Postal Medical Officers, 40; Royal Eye Hospital, Southwark, 46; Glasgow University Club (London), 57, 1439; Cambridge Graduates Medical Club, 116; National Society for the Prevention of Cruelty to Children, 275; Edinburgh University Club (London), 334; British Medical Association, 351; Royal Institute of Public Health, 574; Metropolitan medical schools, 706, 290, 950; Charing-cross Hospital Medical School, 784; North-west London Clinical Society, 827; Torquay Medical Society, 843; After the opening of the Thompson-Yates Laboratories, 1010; Society of Anæsthetists, 1130; Irish Medical Schools and Graduates' Association, 1220; Aberdeen University Club, 1220; Dental Hospital of London, 1348, 1573; Chemical Society, 1319; Royal Southern Hospital, Liverpool, 1438; medical students of University College, Liverpool, 1438; Cork Medical and Surgical Society, 1439; National Dental Hospital, 1443; medical students of Mason College, Birmingham, 1450; Royal Society, 1496; Exhibitors' Association, 1513; London School of Tropical Medicine, 1722; University College, Liverpool, 1741; Aberdeen Medico Chirurgical Society, 1742; Leeds School of Medicine, 1746; Company of Plumbers, 1806
Diphtheria of the throat, nares, conjunctiva, and urethra, 322; in elementary schools, 763; comparative etiology of, 945; fibrinous or membranous rhinitis and, 1124, 1226; the milk trade and, 1214; discussion on, 1268; the treatment of, by antitoxin in London compared with that in Paris and Berlin, 1457; and elementary schools, 1490; laryngeal, tracheotomy for, antitoxin and, 1551
Diphtheria in London, 115, 236, 439, 445, 904, 1018, 1302, 1443, 1745; in Urmston, 233; in Bettws-y-Coed, 575; in Tunbridge Wells, 1160, 1797; in Monaghan, 1440, in Oldbury, 1440; in Swansea, 1621, 1745; in Yarmouth, 1650; in Cardiff, 1711
Diphtheria toxin, action of, 71, 72; antitoxin, a patent for, in the United States, 501, 559, 964, 1512; bacilli in the urine, 1325, 1471; antitoxin in private practice, 1644, 1664, 1732, 1816; antitoxin in hospital and private practice, 1582
Diphtheritic bacilli, membranous tracheitis and laryngitis, without, 403, 779, 935; conjunctivitis, 1267
Diphtheritic (see also Post-diphtheritic)
Disease, artificial resistance to, the production of, 245; the spread of, through laundries, 502; intracranial, 516; the spread of, certain undefined factors in, 1131, 1307; its treatment, and the profession of medicine in 1899, 1607, 1683, 1755
Diseases, notifiable, nomenclature of, 33; zymotic, nerve disorders in, 420; certain, soil as a factor in the spread of, 444
Diseases, Internal, Clinical Diagnosis and, Atlas of (review), 879
Disinfectants, formaldehyde and sulphur as, 445; exhibition of, 455
Disinfection, a steamship equipped for, 724; formalin lamps for, 1049
Disinfection and Disinfectants (review), 1769
Dislocations, the influence of position in, 859
Dislocations (see also Luxationen)
Dispensaries, provident, 572
Dissecting aneurysm, 317, 793
District Nursing on a Provident Basis (review), 152
Diver, Dr. E., chemical lots, 1680
Dobie, Dr. R., acute yellow atrophy, 1336
Dockrell *v.* Dougall, 94
Doctoress, an American, 1525
Doctor Therne (review), 1640
Dockrell, Dr. M., Coley's fluid, 521
Dogs, chloroform for, 766
Domestic Buildings, Sanitation of (review), 1482
Dominica, Legislative Council of, appointment of a member, 1008
Donald, Dr. A., vaginal section, 441
Dorking, water-supply of, 270
Dorsetshire, lunacy in, 458
Double personality, 1378
Doyen, Professor, various operations by, 440
Doyen, Mons., a surgeon of Reims, a strange story regarding, 586
"Dr.," the title of, 587, 731, 1529, 1604
Drainage of Swanage, 163, 228, 280; of country houses, 817, 846
Drainage (see also House Drainage)
Drains at Bodmin, 404
Drama, historical, by an Edinburgh physician, 1648
Dresser, assault on a, 1681
Dressing-table, a surgical, 939; tray, 998
Drink question in Liverpool, 769
Drinking water, the mosquito and, 1295
Drink-fetching by children, 566, 699
Drought, the, 767
Drought, Mr. P. J., skiagrams, 1553
Druggist, the avenging, 121
Druggists, the dispensing of medical prescriptions by, 97
Drugs, exhibition of, 302, 378
Drummond, Dr. D., ether pneumonia, 355
Drunk or dying? 494, 560
Drunkards (see Habitual Drunkards)
Drunkenness of women, a physical basis in the, 159, 227; and the death of children, 1413
Drunkenness, the diagnosis of, 839
Drury, Dr. H. C., bicuspid aortic valve, 1480
Dry-cleaning process, dangers of the, 762
Dry-rot, the nature of, 846, 907
Dublin, Royal Hospital for Incurables, 57, 233; Mercer's Hospital, 112; an ambulance corps, 112; Coombe Lying-in Hospital, 112; Congress of the Royal Institute of Public Health, 176, 216, 284, 423, 437, 510, 529, 534, 573, 581, 823; Richmond District Lunatic Asylum, 233, 234; *medical officers of the South Dublin* Union, 233; public abattoirs, 494; public health, 529, 673; Meath Hospital, opening of the session, 1151; benefaction by Lord Iveagh, 1603
Dublin, health of (see Vital Statistics, weekly), climatology of (see Ireland, its capital)
Dublin Journal of Medical Science (review), 1134, 1341, 1710
Duckworth, Sir D., character in medicine, 1037
Duguid, Dr. A. G., presentation to, 1237
Duke, Mr. A., a modified uterine sound, 812; a warm air inhaler, 1711
Dumbarton poorhouse, mismanagement at the, 161
Duncan, Dr. J., operating theatres, 294
Dundee Infirmary and University College, 112
Dunley-Owen, Mr. A., malaria, 798, 1764
Dunlop, Dr. J. C., colour-blindness, 301
Dunn, Mr. L. A., wound of internal pudic artery, 84
Dunn, Mr. P., corneal ulcers, 1043
Duotal, 1486
Durham, Dr., agglutinating properties of sera, 446
Durham county, medical report, 1014
Durham University, pass lists, 784, 843, 903, 1029; and the M.D. for practitioners, 1035
Dutch India, abscess of the liver in, 1731
Dutch, Dr. H., the "private surgeon," 1605
Dyed stocking, alleged death from wearing a, 704, 835
Dying, drunk or, 494, 560
Dysenterie, Recherches Bactériologiques sur la (review), 1403
Dysentery, saline treatment of, 52; South African drugs in, 127; in Upper Egypt, 305; acute, the treatment of, 377; chronic, 516
Dysentery (review), 1132
Dysmenorrhœa, discussion on, 263
Dyspepsia, the study of, 994
Dysphagia, functional, 1463, 1477
Dystrophies, muscular, 1348, 1638

E

Ear affections, nasal obstruction and, 931
Ear, external, completely cut off and successfully replaced, 1074; chronic discharge from the, 1336
Ear, Injuries and Diseases of the (review), 1340
Ear (see also Middle-ear, Otitis media)
Earl, Mr. A., The Living Organism (review), 1132
East London, river pollution in, 163; water famine in, 561; medical union in, 1013; water supply of, 1568
East London water, 829
East London Waterworks Company, 561, 699, 885, 1568
East Suburban Medical Protection Society, 46, 116, 774, 837, 1013, 1322, 1411
East, Mr. E., British Medical Benevolent Fund, 1583
Eastbourne convalescent hospital, 117; Provident Medical Association, 1292
Easterbrook, Dr. C. C., thyroid and parathyroid extracts, 383, 646
Eating-houses, Parisian, the kitchens of, 1350
Eccles, Mr. W. McAdam, injury to the humerus, 688; interstitial herniæ, 1695
Écho du Bien (review), 1341
Ectopic pregnancy, cases of, 25, 995; simulated by cystic ovary, 1333; repeated, 1768
Ectopion vesicæ, 1337
Eczema, the nature of, 519; produced by phenyl-hydrazin-hydrochlorate, 1481
Eddowes, Dr. A., hair follicles, 521
Edinburgh: School of Medicine of the Royal Colleges, 233; meeting of the Medico-Psychological Association, 283; unusual arrangements at the Royal Infirmary, 1368; typhus fever, 1609, 1588
Edinburgh (see also British Medical Association, Royal College, Royal Colleges)
Edinburgh University: appointment of a professor of public health, 223; summer graduation and honorary degrees, 353; pass lists, 457, 1236; number of students, 1816
Edinburgh University Club (London), dinner, 334; Medical Journal (review), 1134, 1341
Edkins, Dr. J. S., Elements of Histology (review), 1066
Edmondson, Dr. J., pyæmia, 552
Education, physical, 1687; medical, 1753
Education and medical practice, 1755
Education Department and Billroth's "Care of the Sick," 1720
Eels in water-pipes, 624
Efficiency or compulsion? 267
Egg (see Ovo)

EGYPT, CORRESPONDENCE FROM.—Medical School, 59—Infectious Hospital, 59—Vaccine Institute, 59—*Statistical returns*, 59—*Cairo* tourist season, 59—Luxor Hospital, 59—Anti-rabies institute, 235—Native *remedies* for hydrophobia, 235—The Assouan reservoirs, 235—Veterinary report for Alexandria, 235—Work at the barrage, 235—Egyptian army medical staff, 1026—*Present medical* arrangements, *1026—Port Said hospitals*, 1026—Citadel Hospital, 1234—Enteric fever, 1234, 1372—Dysentery, 1234—Movements of the Royal Army Medical Corps, 1234—The health of the British troops in Cairo, 1371—The British troops in Alexandria, 1371—The coming Cairo season, 1372—*The medical report on the British troops in* 1897, 1442—The Nile expedition (1898), 1442—The Quarantine Board, 1442—The cigarette trade, 1442

Egypt, the sick and wounded in, 172; pellagra in, 377; Meteorology of (review), 1205
Egypt, Upper, dysentery in, 305
Egypt (see also Soudan campaign)
Egyptian vital statistics, 883
Egyptian (Arabic) Self-taught (review), *486*
Einhorn, Dr. Max, Diseases of the Stomach (review), 877
Elbow-joint, injuries of the, 294
Electric Medicamental Diffusion (review), 217
Electric shock, death from, 421; shocks at Cardiff, 1526; lighting at Cardiff, 1654
Electrical conductivity of animal liquids, 452
Electricity in elephantiasis, 567; oxidation of atmospheric nitrogen by, 673, 696; the conversion of coal into, 1078; medical, books on, 1305
Electricity, The Discharge of, Through Gases (review), 1483
Electrolysis of sarcoma, 356
Electro-magnetic extraction of foreign bodies from the eye, 535
Electro-Therapeutics, Conservative Gynæcology and (review), 609
Electro-thermogen, 1335
Elements, new, the discovery of, 674, 677, 696
Elephantiasis, electricity in, 567; case of, 1766
Elliot, Mr. J. L., the late, 827
Ellis, Mr. H. Havelock, the *case of*, 1344; Editor of the Contemporary Science Series, 1409; the question of indecent literature, 1431
Ellison, Miss M. A., A Manual for *Students of* Massage (review), 1709
Ellis, Mr. R., obituary, 842
Ellis, Dr. W. G., *beri-beri*, 985
Embryological curiosity, 686
Emin Pasha's medicine chest, 1305
Emmerson, Dr. J. B., cycling, 1160
Emphysema, a sequel of malignant *disease of* the sigmoid flexure, 1391
Employers' Liability Act, bone-setters and the, 228, 280; a point under the, 309, 786; house surgeon's fees under the, 1680

Empyema, surgical treatment of, 236, cases of, 829 873
Empyemata, the dangers of irrigating, 1420
Emsworth Victoria Cottage Hospital, opening of the, 453
Enanthemata, 218
Encephalasthenia (review), 323
Encyclopædia Britannica, 212
Endean, Mr J. B., a complaint against the Education Department, 1720
Endermic medication, 1453, 1523
Enema rash, 1002
England, the great towns in, the populations of, 352; and Wales, the registered practitioners of, report to, 1575
England (see also West of England)
English towns, health of (see Vital Statistics, weekly)
English speaking practitioner in Italy, 1233.
Enniscorthy Workhouse, nursing in, 823
Enterectomy, manner of performing, 193; cases of, 296
Enteric fever, the bacilli and the chemical pathology of, 1, 71; the relation of privies, pail-closets, and water closets to, 501, and shellfish, 710; the *Public Health Act* and, 726, spread by a potato salad, 1241; complicated with pregnancy, 1334
Enteric fever in Camborne, 474; in India, 227; in Maidstone, 423, among British soldiers in India, 574, in Bettws y Coed, 575, in *Brighton, 710, in Blackpool, 710; in West* Bromwich, 1656
Enteritis, bacteriology of, 1266
Enterostomy, 192
Ephedrine hydrochloride as a mydriatic, 24
Epidémie, Autour d une (review), 414
Epilepsy, ipecacuanha in, 751, artificial serum in, 783, bromide of strontium in, 953, trephining for, 1129
Epilepsy (see also Hystero-epilepsy and Status epilepticus)
Epileptics, Meath Home of Comfort for, 126; National Society for the Employment of, 138, accommodation for, 182, 238, insane, working colony for, 1722
Epispadias, Cantwell's operation for, 1193
Epithelial pearls in the tonsils, 1231
Epitheliomatous gummatous ulceration of the scalp becoming, 1623
Epsom salts in sheets and blankets, 343
Epsom College (see Royal Medical Benevolent College)
Erdmann, Professor H., Lehrbuch der *Anorganischen Chemie* (review), 809
Ermengem (see Van Ermengem)
Errata, 53, 963, 1233, 1640, 1816
Erysipelas, annual, 63, anti-streptococcic serum in, 82, produced by streptococcic pus 234, hospital treatment of, in Aberdeen, 720
Erysipelas streptococcus, anti streptococcic serum from the, 113
Erythema, umbilical, 891, *enematogenes*, 1002
Erythromelalgia, 431
Eshner, Dr. A. A., Atlas of Clinical Diagnosis and Internal Diseases (review), 879
Esmarch, Dr Friedrich, First Aid to the Injured (review), 830
Essex, medical report for, 1014
Eston urban district, small pox and vaccination in, 334
Ether, a new bottle for, 812, deaths during operation under, 1282, 1491, and chloroform, a certain mixture of, the administration of, 1621
Etherised subjects, how to restore animation in, 1491
Etherion, 587, 1281, 1790
Ether pneumonia, 355
Ethics, *questions of*, 186 309 385, 836, 1093, of club practice, 1021, 1071, 1355, 1435
Etiquette of *consulting practice*, 1.2
Etiquette, a point of, 1452
Eucalyptus globulus, 1304
Eucryl preparations, 557
Eunatrol 304 573
Eurich, Dr, various specimens exhibited, 1473
Europe, the countries of, comparative longevity in, 943, Mineral Waters and Health Resorts of (review), 1272
Evans, Mr J J, foreign bodies in the eye, 535
Evans, Mr W G, the Vaccination Order (1898), 1293
Eve, Mr H W, College of Preceptors, 1664, General Medical Council, 1814
Evesham, the Ancient Order of Foresters at, 46 1141, medical clubs in, 433
Ewald, Professor, venesection, 369, 435
Ewart, Professor J. C., cross breeds and hybrids bred by, 352
Ewart, Dr W., *percussion of* the vertebral spines, 23, auscultatory friction, 551, resonant spleen, 969, disease, its treatment, and the profession of medicine in 1899, 1607, 1683, 1755
Examinations, Aids to (review), 152
Excreta, typhoid bacilli in the 497
Exercise and over-exercise, 1076
Exophthalmos, pulsating, 1634
Expenses of private improvements in relation to rack rent 445
Experiences, clinical, 467
Explosion at sea, 1678
Extra Pharmacopœia (review), 153
Extra uterine gestation, 1123; pregnancy of twelve years' duration, 1404
Eye, crystalline lens of the, dislocation of the, 87, 935; aqueous humour of the, absorption of the, by the iris, 301, malarial affections of the, 376; leuco-sarcoma of the choroid, 516, operation for incarcerated iris, 518, *paralysis of accommodation after influenza*, 517, cyst of the hyaline canal producing a double lens, 517; gumma of the ciliary body, with recovery of vision, 517; interstitial keratitis with acquired syphilis, 517, extraction of transparent lens in high myopia, 518, 805; electro-magnetic extraction of foreign bodies from the, 535, tension of the in irido cyclitis, 1126, tuberculosis of the, 1480
Eye as an Aid in General Diagnosis (review), 1333, External Diseases of the, Atlas of (review), 1407
Eyeball, enucleation of the substitutes for 517, carcinoma of the, 1657
Eyeballs, conjugate movements of the 143
Eyelid the upper, a centre in the brain cortex for raising, 479
Eyes, artificial, 216, dead, the retention of images by, 1003
Eyesight of school children, 719
Eyre, Dr J. W., conjunctivitis, 517

F

Fabre-Domergue, Dr, Les Cancers Epithéliaux (review), 1134
Factories the chief inspector of, report of, for 1897, 563
Factory prosecutions, 305
Fæcal fistula operation for, 691
Face, Chirurgie de la (review) 1207
Facial paralysis, congenital, 704
Fairbank, Mr J, dental education, 1270
"Faith, a reasonable," 418
Fallopian tubes, tubercle of the 1637
Fallows, Mr. J, the late, 1080, 1131
Falmouth, vaccination at, 623
Families, large, among the poor, 1567
Family vitality, limited, in relation to life assurance, 375
Farnfield, Mr W W., the Plaistow Maternity Charity, 714
Farrar, Dr J P, dilatation of rigid os, 441
Farriery, 93
Fasting as a therapeutic method, 1478
Fat family, 756
Fatty tumour, large, 750
Fayrer, Sir J, *enteric fever*, 574, *preventive* medicine, 895, Epsom College, 1085, incorrect rumour regarding, 1423
Feeding, frequent and infrequent some effects of, 1478
Fees, medical, action for the recovery of, 512, at *coroners' inquests*, assistants and 1099, 1174, *for life insurance examinations* 1160 1228, inquest, and hospital medical officers, 1435, to public vaccinators, 1435, house *surgeon's*, under the Employers Liability Act, 1680
Felkin, Dr R W, climate of the Soudan 1639
Female medical graduate, the first, in Italy, 422; professor of gynæcology, 422, health visitors as aids to sanitary progress 1005, medical practitioners in Germany, 1370
Femoral aneurysm 145
Femur, fracture of the neck of the in childhood, 125, the neck of the *suppurative* periostitis of, 807, fracture of the, 862, the neck of the, bending of, 1202, the lower epiphysis of the, separation of, 1630
Fennel, fleas driven away by 7 0
Ferguson, J H, Obstetric Nursing (review), 89, *ectopic pregnancy*, 1763
Ferrier, Dr, intracranial tumours, 363
Ferrier, Professor Félix, Chirurgie de la Face (review), 1207
Fever, neurotic sequelæ of, 97, continued an anomalous case of, 252; in Armagh, 581, urinary, 681
Fever patients, the general practitioner and his 526
Fevers, unclassified, of the tropics 376, pernicious, in British Guiana, 376, various, clinical instruction in, 695
Fibroid, pedunculated, simulated by pregnancy, 322
Fibro-myoma of the penis, 1337
Fibrous bodies, multiple, on the skin, 1329
Fiction, gynæcologists in, 53
Field medical equipment, 226
Filaria strongylus, 442
Filled up dumping ground, 1817
Finger, dislocation of the, 1174
Fingers, severed, restoration of, 1074
Fingers and Toes, Deformities of the (review), 1770
Finlay, Dr D W; International Clinics (review), 32
Finney, Dr W. L St. L, presentation to, 1170
Finny, Dr, ascites, 1768
Fires in lunatic asylums, 1720, 1815
First aid, what is it? 1021, 1083, 1159, 1227; the use of the cruet in 1175
First Aid to the Injured (review), 830
First Aid to the *Injured and Management of the Sick* (review), 880
Fish in water-pipes, 824
Fishermen, deep sea aid to 495
Fist, knife, and revolver, 1604
Fistula, vesical, in the groin, 144; fæcal, operation for, 691
Fitz Gerald, Dr. C E, tuberculosis, 932, obituary, 1745
Fitzwygram prizes, 623
Flagella, the staining of, 874
Flannel shirt club, 1237
Flash Lights on Nature (review) 1709
Fleas driven away by fennel, 780
Flemming Mr P, keratitis, 18
Fletcher, Dr H M, green coloured urine, 1476
Flinn, Mr D. E, banquet to, 967
Flogging movement, 1146
Florence, swindlers in, 815, demolitions in, 1713
Flower, Sir W, the retirement of, 160
Floyer, Dr John, pulse counting 1034
Flux, Dr G, nitrous oxide gas, 933
Fly (see Blind fly, House fly)
Fœtal head, fronto-anterior positions of the, 148
Fœtus the transmission of toxins from the to *the mother, 582, malformations of the, 626*, a syphilitic, the "mediate" treatment of, 1718
Foie, l'Abcès du, Recherches Bactériologiques sur (review) 1408
Follier, Mr H H, lead amblyopia, 1333
Fontanelle the sagittal, at birth, 147
Food, new legislation on, 164 the dangers of, 704, adulteration of, on Sundays, 1076
Food and Cookery Exhibition, 458, and Drugs (Sale of) Act, 948
Food products adulteration, 305, 382, preservatives, 564, 952, supply of Great Britain, 669, supply in the annual report of the Local Government Board, 918
Foods and food products exhibition of 379, 522
Foods artificial, infantile scurvy and, 1643
Foot roller, 1529
Football casualties, 1341, 1819
Forbearance recommended 356
Forbes, Mr D M, presentation to 285
Forceps midwifery, the use and abuse of the, 358, *obstetric*, applying the blades of the, a protest 801, for the treatment of laryngeal phthisis, 1068, axis traction, 1267, 1434
Forearm, compound fracture of the, followed by emphysema and gangrene 407, hysterical contraction of the, 935
Foreign body (or bodies) in the œsophagus, 137, 228, 1267, in the eye, 302, 516, 535, in the rectum, 690, in the vermiform appendix, 1062, in the cheek, 1481, in the knee joint, 1553, in the nose 1718
Foreign degrees, 334
Forensic medicine in 1898, 1779
Foresters, the Ancient Order of 46 433, 1141
Formaldehyde as a disinfectant, 445, in milk, 675
Formalin in insect stings, 731
Formalin lamps for the disinfection of rooms, 1049
Forman, Dr E B, medical London, 1236
Foster, Professor M, function of a university, 915
Foster, Miss accidental drowning of, 500, 574
Fothergill, Dr W E., the decidual cell, 441; *cystic ovary*, 1333
Four square humours, 1175
Fowler, Surg Lieut. Col, *B.* W, the late, 49
Fowler, Dr J S, a correction 1160
Fox, Dr C, ringworm fungi, 520
Fox Dr R H, death in childbirth, 50
Fractured bones, the treatment of, by operation, 467
Fracturen und Luxationen, Atlas der (review), 89
Fractures in a collier, strange succession of, 743; compound, various, 829, the influence of position in, 859, multiple, in rickets, 1638
France, medical men in, the earnings of, 496, news (i e, absurdities) from, 686, post-graduate instruction in, 593, vaccination in, 741, the population question in, 1099; alcohol in 1603
France or French (see also PARIS, CORRESPONDENCE FROM)
France, Mr C F, presentation to, 382
Fraser, Dr T R, medical progress, 243, 258

Frederic, Mr. Harold, the late, the inquest on, 1284
Freemasonry, 1031, 1096, 1117, 1301, 1677, 1729
French army surgeon's experience of influenza, 278; soldiers proceeding on furlough, medical inspection of, 378; Government match factories, 331; medical officer accompanies General Kitchener, 577; naval medical officers, gallantry of, 778; view of the Vaccination Act (1898), 1034; ideas about curry, 1175
French Academy of Medicine (see MEDICAL SOCIETIES)
French, Mr. G. W. H., presentation to, 843
Freyberger, Dr., embolism of middle cerebral arteries, 1330
Friendly societies and the General Medical Council, 1007; and the Royal College of Surgeons of England, 1068; and the medical profession, 1141
Fripp, Mr. A. D., pancreatitis, 1632
Frontal sinus, double empyema of the, 1547
Frost, Mr. W. A., operative treatment of myopia, 898
Fucus vesiculosus, 806, 970
Fungi, ringworm, 520
Fürbringer, Professor Dr. Paul, Diseases of the Kidneys and Genito-urinary Organs (review), 693
Furner, Mr. W., the peritoneal cavity, 1736; gastric ulcer, 1761
Furnival, Mr. W. J., Leadless Glazes (review), 1338

G

Gabbett, Mr. P., the Workmen's Compensation Act, 1507
Gadd, Mr. H. W., Synopsis of the British Pharmacopœia (review), 69
Gaiacophosphal, 267
Gairdner, Sir W. T., life assurance, 374; aphasia and testamentary capacity, 443
Gall-bladder, carcinoma of the, 1329; full of gall-stones, without symptoms, 1553
Gall-stones, the treatment of, 1092; in the common duct causing simple infective cholangitis, 1465
Galloway, Dr. J., granuloma, 1088
Galvani, Luigi, centenary of, 1651
Ganglion, superior cervical, removed for glaucoma, 234; Gasserian, removed for trigeminal neuralgia, 439
Gangrene, traumatic, antistreptococcic serum in, 407
Garbage-mongers, 1148
Gardener, Mr. W. F., uterine contents expelled entire, 323
Gardner, Mr. J. T., presentation to, 381
Garrod, Dr. A., cardiac lesions, 1062; cyst of the pineal body, 1551
Gas and air, 933, 1021
Gas (see Water gas)
Gastralgia, hysterical, 1440
Gastrectasia, tetany and, 814
Gastric ulcers, perforated, operations for, 296, 1061, 1476, 1628, 1761; juice, free hydrochloric acid in the, reagents for, 731; tetany, 791; dilatation, tetany and, 786, 1333, 1392
Gastric (see also Intragastric)
Gastro-enterostomy, posterior, 1249
Gastro-intestinal hæmorrhage treated by calcium chloride, 144
Gastro-jejunostomy, cases of, 751, 1327
Gastrostomy, case of, 1406
Gastrostomy by the Kader-Senn method, 475
Gauze, double cyanide, 1208; Milne's ribbon, 1558
Gaye, Mr. A., the four square humours, 1175
Gelatin, injections of, in aortic aneurysm, 1092, 1299, 1369
Gelatin and glycerine as a material for casts, 378
Gemmel, Dr. J. F., Idiopathic Ulcerative Colitis (Dysentery) (review), 1132
General Medical Council: meetings of committees, 98; the prosecution of Mr. H. K. Hunter, 123, 527; representation of the R.C.S. Eng. on the Council, 213, 506, 834; amendment of the Medical Act, 214, 227; the prosecution of irregular medical practitioners, 218, 238; unqualified assistants, 237, 396, 969, 1035, 1295; work of the Council, 290, 1692; regulations relative to students, 896; interim report on medical aid associations, 1007; and unqualified practitioners, 1718; and preliminary examinations, 1734, 1814; retrospect, 1794
General Medical Council: the approaching meeting, 1342; introductory comments, 1443, 1444; the health of Mr. W. J. C. Miller, the late registrar, 1444; opening of the session, 1444; the president's address, 1444; examinations for the Services, 1445; the employment of unqualified assistants, 1446, 1594; the case of C. A. Ducket, 1446; restoration to the Medical Register, 1447; inspection of documents, 1447, 1598; midwives' registration, 1448; tropical diseases, 1448; the work of the Council, 1487; report from the Pharmacopœia Committee, 1496, 1592; corrections, 1507, 1600; the programme of business, 1513, 1516, 1592; the case of F. Mercer, 1513; the case of J. Ll. Whitmarsh, 1514; the case of F. A. Fisher, 1514; the case of the late Mr. H. K. Hunter, 1515, 1518, 1625, 1576, 1649; the case of J. H. Jones, 1516, 1518, 1600; amendments in the Standing Orders, 1516, 1518, 1592; the Direct Representatives, 1519, 1599; preliminary examinations, 1519, 1522, 1592; commissions in the navy, 1522; the examinations of the Apothecaries' Hall of Dublin, 1523; Midwives Bill, 1523; registration of medical, surgical, and dental companies, 1524; the Public Health Diploma, 1525; an American doctoress, 1525; a protest, 1525; disciplinary function of the Council, 1559; Mr. V. Horsley's report to practitioners, 1575; alterations in the Council buildings, 1592; foreign practitioners, 1592; sitting *in camera*, 1592; fraudulent personation, 1592; new colonial medical ordinance, 1594; instruction in vaccination, 1594; medical aid associations, 1595; proposal for a sinking fund, 1595; inspector of examinations, 1596; Irish examinations, 1597; alleged recognition of grammar-school studies by the London colleges, 1597; unauthorised medical examinations, 1599; University Degrees Bill, 1599; claiming medical status, 1599; dental business, 1599; close of the session, 1600; Mr. Horsley on the business of the Council, 1651
General practitioner and his fever patients, 526; an Australian, some experiences of, 827; the life and work of the, 1104
Genito-urinary Surgery and Venereal Diseases (review), 88; Organs, Diseases of the (review), 693
Genital tract, the male and female, the analogies of, 29
Genu recurvatum, 205; retrorsum, 1329
Geological model of London and suburbs, 162, 697
George II., the death of, the cause of, 1005
German Medical Practitioners' Association, annual meeting, 179; State examination in medicine, 179; medical periodicals and dictionaries, 1379; East Africa, the sanitary state of, 1721
Germany, post-graduate instruction in, 594; university education in, 1423
Germany or German (see also BERLIN, CORRESPONDENCE FROM)
Gestation sacs, two, removal of, 1768
Gewebe, Die (review), 754
Giant, the Cuneo, 1747
Gibraltar, sanitation at, 229, 1796; social purity agitation at, 345, 1796
Gibson, Dr. G. A., cardiac disease, 1177; Diseases of the Heart and Aorta (review), 1555
Gilbert, Dr. W. H., Diseases of the Kidneys and Genito-urinary Organs (review), 693
Gillespie, Dr. A. L., Natural History of Digestion (review), 1409
Gilroy, Dr. J., chlorodyne poisoning, 688
Gipps, Staff-Surg. A. G. P., tuberculosis, 1433, 1735
Given, Mr. D. K., the late, 234
Given, Dr. J. C. M., ringworm, 1334
Gladstone, Dr., Anæmia, 1478
Glanders, a case of, 806; recovery from, 876
Glasgow: Faculty of Physicians and Surgeons, 112, 782, 1439, 1588; Congress of Plumbers, 567; prosecution of the junior staff of the Royal Infirmary, 720; explosion of an ice-making machine, 824; Dr. J. B. Russell, 946, 1509, 1558, 1742; St. Mungo's College, 1167; Royal Hospital for Sick Children, 1439; Western Infirmary, 1509; the health department, 1509; action for damages against the medical officer of the prison, 1509; Victoria Infirmary, 1588; lecture on the hospital story of Glasgow, 1588; medical pioneers, 1741
Glasgow, Faculty of Physicians and Surgeons of (for pass lists see above and also under Royal Colleges)
Glasgow University: appointment of Principal, 57; examinations in medicine, 57; pass lists, 115, 1094; summer graduation, 234; death of Principal Caird, 348; Queen Margaret College, appointment of a lecturer, 348; memorial to Principal Caird, 705, 720; post-graduate classes, 782; an *émeute*, 1167; graduation ceremony, 1293; recognition of lectures elsewhere, 1438; various examinerships vacant, 1588; extension of the medical school, 1741; various items of news, 1817
Glasgow University Club (London), dinners, 57, 1439
Glasgow Veterinary College, 1167; Philosophical Society, 1293
Glaucoma, removal of the superior cervical ganglion for, 234
Glazes, Leadless, Researches on (review), 1338
Glioma of the optic nerve, 1126
Glossitis in typhoid fever, 38; chronic, 1269
Gloucester, vaccination at, 524
Glove-fight, the fatal, 1345
Glover, Dr. J. G., diphtheria antitoxin, 1664
Glycerinated lymph, 1565
Glycero-phosphates, granulated, 938
Glycosuria and somatose, 59
"Glymph," 469
Goadby, Mr. K. W., East London water, 899
Goat, filaria strongylus in the, 442
Godlee, Mr. R. J., intussusception, 1262
Goff v. Goff and Gordon, 332
Goitre, hæmatozoon of, 234
Golden wedding of Sir John Simon, 274
Golding-Bird, Mr. C. H., wound of the internal pudic artery, 84
Goldsmith, Dr. G. P., diphtheria, 1263
Golgi, Professor, Cambridge University and, 723
Gonorrhœa, largin in, 582; the abortive treatment of, 902; of the uterus and its appendages, 1305
Gonorrhœal infection, latency of, 1405
Good, Mr. W. R., hernia of the appendix vermiformis, 877
Goodall, Dr. E., presentation to, 487; insanity after injury to the head, 1540
Goodall, Dr. E. W., diphtheria antitoxin, 1682
Goodsall, Mr. D. H., provincial provident dispensaries, 1127
Gooseberry wine, 563
Gordon Boys' Home, 1004
Gould, Mr. A. P., lupus, 1202; pressure in the treatment of wounds, 1475; pancreatic calculi, 1632
Gould, Dr. G. M., Year-book of Medicine and Surgery (review), 1483
Gout, the treatment of, by piperidine, 280; a fit of, the pathology of, 473
Gout, its Pathology and Treatment (review), 1407, 1506
Government laboratory, the work of the, 1072
Grace, Mr. W. G., the jubilee of, 218; presentation to, 1170; dinner to, 1677
Graminearum Bacillus (review), 486
Grant, Dr. D., pharyngo-mycosis, 1432
Gray, Dr. E. B., presentation to, 305
Gray, Dr. W., presentation to, 967; influenza, 1379
Great Northern Central Hospital, election of a chairman, 458
Greatbatch, Dr. H. W., the late, 254
Greenwood, Mr. A., Pershore board of guardians, 714
Gregory, Dr. W. H., multiple diphtheria, 322
Greig, Mr., venereal warts, 1064
Grenfell, Sir Francis, and the Royal Army Medical Corps, 1431
Gresswell, Dr. D. A., water-supply of Melbourne, 824; tuberculosis, 1673; appointed an examiner in Melbourne University, 1673
Gribble, Mr. J. D. B., Medical Jurisprudence (review), 808
Griffith, Mr. J., keratitis, 1634
Griffiths, Dr. W., post-diphtheritic paralysis, 1203; obstruction of the vena cava, 1479; enlarged liver, 1637
Grimes, Mr. L. A., membranous tracheitis, 409
Grimm, Dr. F., Syphilis (review), 32
Grimsdale, Dr. T. B., uterine scar, 1335; tubercle of the Fallopian tubes, 1637
Grip and splint, automatic, 68
Grocers and boric acid, 56
Groves, Dr. J., medical report for the Isle of Wight, 1014
Growth and deformity, 62
Grubb, Mr. S., dressing tray, 998
Grubl, Dr., the late, 1511
Guiana (see British Guiana)
Guide-books (review), 152
Guild of St. Barnabas, 889; of St. Luke, 891, 1082, 1293, 1606
Guillemain, Dr., Chirurgie de la Face (review), 12/7
Guillotine, execution by the, 113
Gulland, Dr. G. L., nerves on intracranial blood-vessels, 454; sulphonal poisoning, 1638
Gummatous ulceration of the scalp becoming epitheliomatous, 1629
Gunshot wounds, 828; treated in hospital at Rawal Pindi, 1117, 1186
Guthrie, Dr. L., hemiplegia, 1202
Guy's Hospital, errors of diagnosis at, 494, 560; scholarships and prizes, 939; opening of the session and dinner, 950
Gwynn, Dr. E., the medical officer of health, 1063
Gygax, Dr. P., Ophthalmological Therapeutics (review), 30
Gynæcologists in fiction, 68

Gynæcology, a female professor of, 422; surgical interference in, 1404; in 1898, 1774
Gynæcology, Operative (review), 553
Gynæcology, Conservative, and Electro-Therapeutics (review), 809
Gynécologie et d'Obstétrique, Annales de (review), 810; et de Chirurgie Abdominale, *Revue de (review)*, 810, 1207
Gynæcology, Atlas and Essentials of (review), 485

H

Habit and change, 1606
Habitual Drunkards Act, 107
Habitual Inebriates Act, 152, 238, 1816
Hacon, Mr. W. F., obituary, 1442
Hadley, Dr. W., diabetes insipidus, 1303; malignant disease of the lung, 1330
Hæmatogen (Hommel's), 1207
Hæmatozoon of goitre, 234
Hæmaturia as a symptom, 14, 76, 123
Hæmoglobin, albumin of, 704
Hæmopericardium, *case of*, 689
Hæmophilia, 332; oxygen inhalation in, 1474
Hæmorrhage, gastro-intestinal, treated by calcium chloride, 144; post partum, treated by saline injection, 1628
Haffkine's plague prophylactic, 450, 608, 1003, 1437, 1552
Haggard, Mr. H. R., Doctor Therne, 1059; review, 1640
Haig, Dr. A., suicide, 363; blood granules, 515, 578; diabetes, 1408; Uric-Acid (review), 1404
Hair follicles infected, the treatment of, 621
Halifax, scarlet fever in, 503; the school board and the medical officer, 825
Hall, Mr. B., *shock*, 1635
Hall, Mr. O., overlaying of infants, 303
Halogenalbumin preparations, 557
Hamburg, *lepers in*, 1241
Hamilton, Dr. E. T. L., pneumococcus infection, 1045
Hamilton, *Lieut. J. A., fatty tumour*, 730
Hamilton, Mr. R. J., carcinoma of the eyeball, 1637
Hampstead Heath, *extension of*, 96, 218, 333
Hands, tylosis of the, 1335
Hanwell Schools, adenoid disease in the, 64
Harding, Mr. *J. J., puerperal septicæmia*, 83
Hardwicke, Dr. W. W., oysters, 1804
Hare, Dr. O. J., obituary, 1744
Hare, Dr. F. L., barkoo-rot, 1241
Harelip, treatment of, 371
Harper, Dr. A., Eastbourne Provident Medical Association, 1292
Harrington, Dr., medicine and literature, 1065
Harris, Dr. F., caseinogen, 455
Harris, Mr. W., medical report for Southampton, 575
Harrison, Mr. R., urethral strictures, 318; stone in the bladder, 1250
Hart, Dr. B., the genital tract, 29
Hart, Mr. F. J. L., *oxalic acid poisoning*, 875; fees to public vaccinators, 1504
Hart, Mr. G., the late, 967
Hartley, Mr. J., rebreathed air, 744
Hartley, Dr. R., an appeal, 122, 1174
Hartridge, Mr., choroiditis, 1634
Harvey, the new, 846
Haslam, Mr., fibro-myoma of the penis, 1337
Haslewood, Dr. C., inversion of the uterus, 1762
Hastings, medical report for, 575
Haultain, Dr. F. W., *Obstetric Nursing* (review), *89*; 110 abdominal sections, 1767
Havana, sanitation of, 350, 420
Hawkins-Ambler, Mr., hysterectomy, 1637; saline irrigation, 1707
Hawkhead Asylum, the hospital in connexion with, 176
Hawthorne, Mr. E. S., malarial fever, 607
Haynes, Dr. S., *an enterprising agent*, 1523
Head, the fœtal, fronto-anterior positions of, 148; the *after-coming, delivery of, in* contraction of the pelvis, 1174; injury to the, insanity after, 1540
Headache, mechanical treatment of, 865
Healing, the gift of, possessed by a seventh son, 760
Health in hot countries, 1151
Health *resorts*, the measurement of sunshine at, 226; in Canada, 350; infectious diseases at, 781, 826
Health (see also Public Health)
Hearing, theory of, suggested by the telephone, 391
Heart, rheumatic dilatation of the, 28, 29; experiments on the, 715, 721; wound of the, recovery after, 706; tricuspid stenosis, case of, 1064; congenital affection of the, 1127, 1405; sarcoma of the, 1329; bicuspid aortic valve, 1480; various lesions of the, 1481; pulmonary regurgitation, 1638
Heart disease, rheumatic, in childhood, 371; the chronic forms of, treatment of, 1538, 1553
Heart disease, the influence of the nervous system in, 1658
Heart and Aorta, Diseases of the, Clinical *Lectures on (review)*, 830; *Diseases of the (review)*, 1555
Heart radial interval, 20
Heat and insanity, 758; or cold, the local *application of*, 1305
Heat in New York City, 240
Heat (see also Hot appliance)
Hebb, Dr. R. G., actinomycosis, 1061
Heffernan, Mr. J., Plaistow Maternity Charity, 834
Hehir, Surg.-Maj. P., Medical Jurisprudence (review), 878
Helferich, Professor H., Frakturen und Luxationen (review), 89
Helium, the liquefaction of, 674
Heller, Dr., pemphigus foliaceus, 1334
Helm, Dr. G. T., dislocation of the lens, 825
Helme, Dr. T. A., extra-uterine pregnancy, 1401
Helston, enteric fever in, 47
Hemiplegia, organic, relaxation of muscles in, 1007; with atrophy of the optic nerve, 1202
Hemmeter, Dr. J. C., Diseases of the Stomach (review), 877
Henderson, Dr. T. R., Regina v. Collins, 227
Hepatectomy, *cases of*, 275
Hepatic cirrhosis, the clinical varieties of, 232; the bacteriology of, 233, 393
Hepatic vein, thrombosis of the, 1201, 1203
Hepatoptosis, case of, 1329; "liver-cough" in, 1420
Herbalist in trouble, 587
Herbert, Capt. H., *tension of the eye*, 1126
Herbert Hospital at Woolwich, 117
Herman, Dr. G. E., ligature of the uterine *arteries*, 1058
Hern, Dr. J., substitutes for enucleation of the eyeball, 617
Hernia, ventral, rupture of, 74; *Richter's case* of, 410; latent, 553; *strangulated, in an* infant, 690; of the appendix vermiformis, 577; omental umbilical, *cases of*, 1378; irreducible, radical cure of, 1560
Hernia, interstitial, 1695
Hernial sac, suppuration in a, 1122
Heroes, two medical, 1564
Heroin, 1496, 1511, 1744
Heroism with risk, 221
Hero's death, 1649
Herpes zoster, the pathology of, 822, 970
Herringham, Mr. W. P., myositis ossificans, 1061
Herschell, Dr., diseases of the stomach, 368
Hertwig, Professor Oscar, Die Zelle und die Gewebe (review), 754
Herz, Dr. Cornelius, the late, 164
Hewlett, Dr. R. T., Bacteriology (review), 1339
Hichens, Dr. P. S., fatal constipation, 1121
Hicks, Dr. J. J., uterine replacer, 483
Hildebrand, Dr., Chirurgie (review), 1641
Hill, Dr. Alexander, unnatural death, 953
Hill, Dr. Alfred, annual report for Birmingham, 163; food preservatives, 952
Hill, Dr. B., medical report for Warwickshire, 1083
Hill, Dr. E., medical report for Durham County, 1014
Hill, Dr. L., the sphygmometer, 715
Hill (see This hill, &c.)
Hillier, Dr. A. P., dysentery, 515
Hinshelwood, Dr. J., holocaine, 516; Clinical Medicine (review), 1400
Hip, congenital dislocation of the, operation for, 440, 1406, 1633; dislocation of the, in man and animals, 853; old dislocation of the, operation for, 1059; congenital displacement of, 1267
Hip-joint disease, a distinct variety of, 1309; short leg in, the prevention and correction of, 1624
Hippuric acid in the urine, 1748
Hips, congenital dislocation of both, *1130*; spine, and shoulders, ankylosis of the, 1417
Histology, The Essentials of (review), 413; Text-book of (review), 997; Elements of (review), 1066
Hobday, Professor, chloroform for dogs, 766
Holder, Sir J., bed in Birmingham General Hospital, 111
Holiday season, 329
Holman, Dr. C., Epsom College, 1085
Holmes, Mr. T., Sir B. C. Brodie (review), 209
Holocaine in ophthalmology, 516
Holthouse, Mr. E., Convergent Strabismus (review), 88
Holy water and infection, 69
Home wanted, 1453, 1529
Home, My, and Household Companion (review), 487
Hommel's hæmatogen, 1207
Hong Kong, insanitary house property in, 40; venereal disease in, 63; decline of plague in, 423, 493; overcrowding in, 507
Honours to medical men, 107, 706, 834, 947, 1018, 1220, 1345, 1353, 1441, 1564, 1559, 1579, 1659, 1731, 1763, 1801; municipal honours, 176, 1290, 1375
Hooper, Dr. D., vitality, 1158, 1506
Hope, Dr. E. W., estimates of population, 50, 332; annual report for Liverpool, 105
Hopkinson, Dr., the late, 768
Horder, Mr. T. G., hospital reform and sanitation, 345; National Deposit Friendly Society, 434; hospital reform, 670, 715, 953; the Medical Directory, 907
Horne, Dr. W. J., laryngeal tuberculosis, 449, 618
Horse hybrids, 352
Horses, old, the traffic in, 1492
Horsley, Mr. V., spinal caries, 370; a protest from, 1525; report to the practitioners of England and Wales, 1576; address on the work of the General Medical Council, 1651, 1692
Hospital, an *operation performed in a*, by an unqualified person, 462; ancient Roman, near Zürich, 626; cottage, definition of a, 527; *cottage, complicated questions as to* seniority at a, 1379
Hospital, infectious or isolation or fever (see *Infectious or Isolation Hospital or hospitals*)
Hospital stoppages in the army, 63; treatment in the army, cost of, 64; accommodation at Malta, 383; errors and hospital abuse, 563; excursion ship in New York, 763; stamps, the public schools and, 1284; railway train, 1430; medical officers, inquest fees for, 1435
Hospital abuse, 560; at Coventry, 1154; the rise of, 1383; at Bradford, 1492; retrospect, 1800
Hospital Fund for London, the Prince of Wales's, 102, 491, 700, 1284, 1491, 1569, 1795
Hospital reform, 43, 174, 286; and sanitation, 345, 953; in Ireland, 709
Hospital Reform Association, 285, 560, 670, 709, 715, 950
Hospital Saturday Fund in Aberdeen, 57, 678; in Sydney, 179, 512; in Liverpool, 283; in Manchester, 510; in London, 1075
Hospital Sunday Fund, the Metropolitan, 47, 107, 168, 275, 333, 341, 491, 1501, 1569, 1645, 1656, 1795
Hospital Sunday Fund in Liverpool, 283; in Manchester, 610; in Southport, 840; in Birmingham, 1082; in Plymouth, 1526; in Bristol, 1722
Hospital Practice, *Surgical Technics in* (review), 1340
Hospitals, military, admission to, 62; metropolitan, and midwifery cases, 460; for phthisis, 511; combination for infectious diseases, 889; London, the development of, during the nineteenth century, 1381; certificates from the Workmen's Compensation Act and, 1493, 1507; Strange Stories of the (review), 1558; voluntary, 1646; pay wards in, 1681
Hospitals and Charities, Burdett's (review), 89
Hospitals Disabilities Fund, 340
Hospitals, homes, dispensaries, &c., bequests and donations to, collections, bazaars, dramatic performances, &c., in aid of, and promised contributions, 52, 93, 112, 116, 164, 176, 182, 235, 237, 283, 284, 324, 336, 423, 584, 933, 1237, 1352, 1600
Hospitals, homes, dispensaries, &c., annual *meetings, reports*, statistics, or dinners of, 48, 236, 349, 522, 528, 537, 556, 681, 772, 1301, 1348, 1693
Hot appliance, the "perfect," 1643
Hot countries, health in, 1151
Hot weather in Italy, 721; in Paris, 840
Hot weather dangers, 219
Hot-air treatment of neuralgia and rheumatism, apparatus for, 1385
Houchin, Mr. L. A., *endermic medication*, 1529
Houghton, Mr. M., bone-setters, 280; the *Employers' Liability Act, 325; the Plaistow* Maternity Charity, 653
House, a microbe-proof, 1240
House Drainage Manual (review), 1557
House *fly* the carrier of typhoid germs, 1235
House surgeon's fees under the Employers' Liability Act, 1630
House property, insanitary, in Hong Kong, 40
Houses, sanitary condition of, *liability for the*, 217; cancer in relation to, 1402
Housing of the Working Classes Act, 445; (review), 1703
Howard, Dr. H., blood films, 1705
Howard, Kingsbury and another *v.*, 215
Huddersfield, *annual medical report for, 603*; infectious diseases sanatorium at, 1165
Hugo, Surg.-Lieut., the bravery of, 108, 221, 237
Human voice, the pitch of the, 779
Humanity, science and, a gift to, 1803
Hume, *Mr. G. H., lateral anastomosis of the large intestine*, 683

Humerus, the lower epiphysis of the, trau-
matic separation of, with displacement for-
wards, 688; luxatio erecta of the, 829;
fracture of the, 862; infra-clavicular disloca-
tion of the, 1253
Humours, the four square, 1175
Humphreys, Mr. F. B., Plaistow Maternity
Charity, 835
Humphrey, Dr. L., rupture of coronary artery,
689
Hungary, post-graduate instruction in, 595
Hunt, Surg.-Maj. G. Y., Can it be True?
(review), 151
Hunter, Mr. H. K., the case of, 123, 527, 1515,
1518, 1555, 1578, 1649
Hunter, Dr. W., various specimens exhibited,
1329
Huntingdon, infectious hospital at, 1113
Hurry, Dr. J. B., District Nursing (review),
152; medical relief, 1495, 1550
Hutchinson, Mr. B., vulgar methods, 1093
Hutchinson, Mr. J., congenital syphilis, 371
Hutchinson, Mr. J., jun., neuralgia, 437;
epiphysis of the femur, 1650
Hutton, Dr. M., empyema, 296
Huxley lecture, 163, 250, 423, 784, 909, 940
Hybrids, various, 352
Hydatid cysts, various, operations for, 830, 992
Hyderabad, Pasteur Institute for, 1585, 1741
Hydraulic pressure in contracture of the
bladder, 160
Hydrocele injection apparatus, 1341
Hydrochloric acid, free, in the gastric juice,
reagents for, 731
Hydrogen and helium, the liquefaction of, 674
Hydrology, &c., congress of, 459, 944
Hydrometra, 1634
Hydropathy and vegetarianism, 1370
Hygiene and the claims of art and history,
1713
Hygiene, the International Congress of, 314,
1795
Hygiene, Handbook of (review), 1555
Hymen, imperforate, 455; persistence of, until
second stage of labour, 1251; persistence of,
with retention of fœtus, 1325
Hyndman, Mr. H. H. F., Radiation (review),
1493
Hyperpyrexia in malarial fever (? or sunstroke),
507; in a neurotic woman, 1331
Hypnotism, its phenomena and theories, 354;
its psychological side, 355
Hypnotism (alleged), of a patient by a medical
man, 215
Hypodermic syringes, 188, 811
Hypophosphites compound, tabloids of, 153
Hysterectomy, cases of, 502, 863, 1205, 1637
Hysteria in the lower animals, 275
Hysterical contraction of the forearm, 933;
gastralgia, 1440
Hystero-epilepsy, the diagnosis of, 320

I

I'Anson, Dr. T. F., obituary, 583
Ice-creams, the dangers of, 65, 164; and
typhoid fever, 529; a maker of, prosecution
of, 924; the making of, control of, 1365
Ice-making machine, explosion of a, 824
Ichthyosis, fœtal, 113; of the hand, 1335
Idiocy, Mongolian, cardiac lesions in, 1052
Idiosyncrasy towards potassium chlorate, 1325
Ignorance and heroism, 95
"Il faut souffrir pour être belle," 1681
Iliac arteries, transperitoneal ligature of, 146,
226, 1651
Immunity, Wassermann's new theory of, 23;
the agglutinating properties of sera and, 445
Impetigo pustules, the micro-organisms of, 820
Improvement expenses and rack-rent, 445, 532
Incurables, Midland Counties Home for, en-
largement of, 110
Indecent literature, the question of, 1344, 1431
India, notes from, 55, 175, 232, 282, 435, 508,
580, 717, 781, 843, 900, 951, 1023, 1165, 1295,
1358, 1437, 1507, 1585, 1666, 1740
India, plague in, 55, 126, 175, 232, 282, 435, 450,
508, 524, 580, 717, 781, 821, 838, 843, 858, 900,
944, 951, 1026, 1015, 1023, 1155, 1171, 1204,
1220, 1227, 1295, 1366, 1385, 1437, 1507, 1585,
1666, 1740; commission on, 1277, 1375, 1806
India, Medical Jurisprudence for (review), 808
India: venereal disease in the army, 183, 524;
invalid British soldiers, 225; enteric fever,
227; cantonment rules, 305; chloroform,
357; cerebro-spinal fever, 375; Royal Army
Medical Corps, 433; Haffkine's plague
prophylactic, 450, 506; bacteriological in-
vestigation (or laboratories), 524, 577; enteric
fever among British soldiers, 574, 717;
report of the sanitary commissioner with
the Government, 831, 951, 1154; preventive
medicine, 895; medical reform, 903, 1023;
rabies, 1295; the rights of children, 1421;
medical officers for plague duty, 1423; the
staff of the new Viceroy, 1431
India, Dutch, abscess of the liver in, 1731
Indian Medical Service, 62, 182, 232, 577, 606,
705, 712, 834, 898, 1431
Indian Medical Service (see also Services)
Indian medical association and reform in
medical education, 903
Indian frontier campaign (or troubles), 172,
473, 1290; trooping season and the Royal
Army Medical Corps, 898; Government and
the plague, 1069; addendum to the British
Pharmacopœia, 1498, 1169
Inebriates (see Habitual Inebriates)
Inebriety, insanities of, 393
Infancy and Childhood, Medical Diseases of
(review), 879
Infant, strangulated hernia in an, 699;
laparo-nephrectomy in an, 746; the growth
of the, and the composition of the milk,
1004; lead poisoning in an, 1773
Infant Life Protection Act, prosecution under
the, 554
Infantile mortality, milk and, 493; oph-
thalmia, the treatment of, 568; diarrhœa,
943; paralysis, a method of restoring the
function of the muscles in, 1195; scurvy
and artificial foods, 1648; insusceptibility to
vaccination, 1735
Infant's starvation dietary, 1347
Infants, mastoid disease in, 371; increase of
weight in, before death, 1219; tabes mesen-
terica in, what is it? 1662
Infection, holy water and, 69; the exclusion
of, from schools, 1019; bacillary, a source of,
1665
Infectious disease in the navy, 305; cases, the
carriage of, by sea, 1378
Infectious diseases, toxic origin of, 244; clinical
instruction in, 695; at health resorts, 781,
825; puerperal, notification of, 1572
Infectious diseases, notification of, in France,
285; in Japan, 894
Infectious Diseases (Notification) Act, a point
under the, 282; difficulties under the, 1158
Infectious hospitals: Cairo, 59; Plymouth,
811; combination, 889; Leeds, 957; Hunt-
ingdon, 1113; Huddersfield, 1155
Infective diseases, serum diagnosis and thera-
peutics in, 513
Influenza, a French army surgeon's experi-
ence of, 278; paralysis of, accommodation
after, 517; pneumonia complicating, 801;
sequelæ of, 1256, 1257; scarlatiniform erup-
tion in, 1304, 1379, 1453
Infra-orbital nerve, neurectomy of, 1553
Inhalation tube, an ori-nasal, 154
Inhaler, A.C.E., 1203; improved Ormsby, 1485
Inkson, Surg.-Maj.-Gen., the late, 778
Innominate artery, aneurysm of the, 1335
Innsbruck as a winter resort, 1093
Inquest fees for hospital medical officers, 1435
Inquest fees for hospital medical officers, 1435
Inquests, evidence at, as to cause of death, 702,
907; the viewing of bodies at, 718
Insane, blood pressure in the, 174; metabolism
in the, thyroid and parathyroid extracts
and, 353, 546; general paralysis of the, its
average duration, 1256
Insane epileptics, working colony for, 1722
Insanitary areas and the drink question in
Liverpool, 769
Insanities of inebriety, 393
Insanity, the reported increase of, 112; the
treatment of, improvements in, 223; the
etiology of, modern conceptions of, 311, 323,
353; the plea of, in criminal cases, 443; heat
and, 758; after injury to the head, 1540
Insect stings (or bites), 565, 731; death of a
medical man from, 957
Institut Pasteur, Annales de l' (review), 266
"Instra" warmer, 1749
Insular sclerosis, presumed case of, 1130
Insurance against sickness for medical men,
583
Intestinal cancer, 189; tuberculosis, the
surgical treatment of, 274; absorption, 452;
tuberculosis, 567; surgery, some rudiments
of, 1181
Intestinal obstruction, 295; by round worms,
422; operation for, 553; discussion on, 1481;
anæsthetics in, the danger of, 1717
Intestine, obstruction of the, by band, cases of,
80; perforations of the, in an anomalous case
of fever, 252; the large, obstructive disease
of the, treated by lateral anastomosis, 684;
the small, volvulus of, 767; the small, excision
of, 1331, 1435; ruptured, without abdominal
wound, 1548
Intestines, ulceration of the, South African
drugs in, 127
Intracranial tumours, the treatment of, 365;
disease, 516
Intragastric instruments, 369
Intrathoracic tumour with secondary
growths in the brain and alternate paralysis,
136
Intravenous infusion in uræmia, 93; injection
of saline solution in collapse, 323
Intussusception of the cæcum, 261, 484, 1262;
nævoid tumour in an, 1270; laparotomy for,
1324, 1591
Iodine, sunshine measured by, 256
Iodoformogen, 154
Ipecacuanha in epilepsy, 751; for mosquito
bites, 787

IRELAND, CORRESPONDENCE FROM.—Conjoint
examinations in Ireland, 57—Royal Irish
Academy, 57—Royal Hospital for Incurables,
Dublin, 57, 223, 1589—Belfast union work-
house, 57—Monaghan and Cavan Asylum,
57—Newcastle as a health resort, 57—
Mercer's Hospital, Dublin, 112, 1024, 1090,
1231—Irish Medical Association, 112, 177, 1589
—An ambulance corps for Dublin, 112—
Coombe Lying-in Hospital, Dublin, 112—
Royal Victoria Hospital, Belfast, 112, 284, 1510
1589—Health of Belfast, 113, 901, 1168, 1369,
1439, 1589—Public health committee of the
Belfast corporation, 113, 1298—Belfast water-
supply, 113, 720, 1670, 1742—Death of Mr.
M. Howard, 113—Royal Institute of
Public Health, 177, 284, 437, 510—Ulster
Medical Society, 177, 1510—Death of
Dr. D. Johnston, 177—Pauper attend-
ants in the Belfast Union Infirmary, 177,
840—Sale of the Omagh Infirmary, 177—
Queen's College, Belfast, 177, 234, 348, 349,
437, 510, 1091—Belfast Royal Hospital, 177,
551, 1510—Cork Medical Benefit Association,
178—Richmond District Lunatic Asylum,
Dublin, 233, 1576—The medical officers of
the South Dublin Union, 233—Infectious
Diseases Hospital, Belfast, 234—The proposed
new asylum for county Londonderry, 234, 285
—Death of Mr. D. K. Given, 234—Lady
guardians in Belfast, 234—Close of the
college and hospital session in Belfast, 234—
Proposed division of the Richmond asylum
district, 284—Typhoid fever and shellfish,
285—Workmen's Compensation Act, 285—
Death of Mr. A. C. McCutcheon, 348—Death
of the Queen's oldest subject, 349—Royal
University of Ireland, 349, 963, 1230—Ulster
Eye, Ear, and Throat Hospital, 349—Apothe-
caries' Hall of Ireland, 437—The surgeoncy
to the Dublin metropolitan police, 437—
Sanitary condition of Magherafelt, 437—Bel-
fast District Lunatic Asylum, 437, 1025, 1742
—British Pharmaceutical Conference at Bel-
fast, 437—Charitable lotteries, 510—London-
derry Lunatic Asylum, 510, 1091—Omagh
Lunatic Asylum, 510—Death of Mr. W. S.
Love, 510—The Campbell College, 511—
Bangor Cottage Hospital, 581—Fever in
Armagh, 581, 782, 1368—Sanitary condition
of Armagh, 581—Visit of delegates from the
Dublin Health Congress to Belfast, 581—Irish
academic honours to Scotch medical men, 581
—Death by lightning in the county Cork, 581
—Resignations and appointments, 581, 1034,
1168—Typhoid fever in Strabane, 720—Nurs-
ing in Castleblaney workhouse, 720—Bangor
District Nursing Society, 720—Queen's
College, Cork, 720—Typhoid fever in Belfast,
782, 1368—Cookstown sewerage system, 782
—Water famine at Cushendall, 782—Hos-
pital Saturday at Cork, 782—Invitation to
the British Association, 783—Belfast drainage
system, 901, 1368, 1589—Belfast guardians
and the medical profession, 901—Ballycastle
sanitary officer, 901—Lunacy in Ireland, 901
—St. Vincent's Hospital, Dublin, 963, 1024—
Mater Misericordiæ Hospital, Dublin, 963—
Irish Workhouse Association, 963—Mr. T.
W. Russell on citizenship, 963—London-
derry dispensary, 963—The Local Govern-
ment Act and the Cork general hospitals,
963—Meath Hospital and County Dublin In-
firmary, 1024—Pauper nursing in workhouses,
1024—Monaghan water scheme, 1024—
Notification of infectious diseases, 1024—
The housing of the poor of Dublin, 1091—
The Royal Academy of Medicine in Ireland,
1091, 1298—Infantile mortality in Belfast,
1091—Opening of the winter session, Belfast,
1091—Cork Medical and Surgical Society,
1091, 1439—Dublin University, 1168, 1439, 1509;
1742—Sir Patrick Dun's Hospital, 1166—
Royal College of Surgeons in Ireland, 1168,
1231, 1298, 1589—Irish University education,
1168—Belfast corporation, 1168—Ambulance
branch of the Belfast Fire Brigade, 1168—
Treatment of epileptics in Irish workhouses
1231—North of Ireland Branch of the British
Medical Association, 1231—Workers in flax-
scutching mills, 1231—Belfast Maternity
Hospital, 1298, 1510—Medical men and lunacy
affidavits, 1299, 1369—Dublin University
Biological Association, 1439, 1509—Attend-
ance of civilian practitioners on the families
of non-commissioned officers in Cork bar-
racks, 1440—Diphtheria in Monaghan, 1440—
Fever in Ballymena, 1440—National Society
for the Prevention of Cruelty to Children,
Ireland, 1589—Battle of the clubs at Cork,
1589—Cork-street Fever Hospital and House
of Recovery, Dublin, 1670—Death of Dr. J.
Hamilton, 1670—Refuse disposal and sewage

purification, 1670 — Dispensary medical officers and the county councils, 1670—Irish patent medicine bankruptcy case, 1742—Christmas at the Dublin hospitals, 1817—Filled-up dumping ground, 1817

Ireland, Royal University of, honours and *exhibitions at the*, 349; *Poor-law unions in*, the medicinal supplies of, 667; hospital reform in, 709; lunacy in, 901
Ireland, its capital and scenery, 531, 674
Ireland, Dr. W. W., Mental Affections in Children (review), 265
Ireland, the Misses, appeal on behalf of, 463, 1240
Irish medical officers, superannuation of, 183; prisons, the report upon, 568; university question, 1433
Irish Medical Association, meetings of council, 112, 177; Medical Schools and Graduates' Association, 339, 1079, 1220, 1450, Club, 836
Irish medical schools, 635, 637, 652, 657
Irregular medical practitioners, 492
Ischial bursa, extreme enlargement of, 1633
Isle of Man, Port Erin and Port St. Mary as health resorts, 463
Isle of Wight, medical report for the, 1014
Isolation hospital accommodation by county councils, 1355
Isolation hospitals, 1153
Italian character, its pathology, 815; Government, precautions of the, against the plague, 1149; critic on optional vaccination, 1254
Italy, the first female modern medical graduate in, 422; post graduate instruction in, 595; and political assassination, 757, 899; the Roentgen rays in, 1079; physical education in, 1218
Italy or Italian (see also ROME, CORRESPONDENCE FROM, and Lucchent)
Iveagh, Lord, benefactions by, 1893

J

Jack, Dr. W. E., Methods of Staining (review), 1133
Jackson, Mr. G., the Royal College of Surgeons of England, 51
Jacobson, Mr., pancreatitis, 1633
Jakob, Dr. Christfried, Atlas of Clinical Diagnosis and Internal Diseases (review), 879
Jalland, Mr. W. H., ovarian tumour, 27
James, Dr., scleroderma, 1766
James, Dr. A., hepatic cirrhosis, 192; tuberculous neuritis, 1365
James, Mr. J. R., presentation to, 1301
James, Surg. L. E., presentation to, 1170
Jameson, Surg.-Maj Gen. J., a correction, 53
Jamieson, Dr. W. A, diseases of the skin, *372*; cases exhibited, 1766
Janowski, Dr. W., suppuration of suprarenal glands, 204
Janus (review), 693
Japan, the sanitary progress and institutions of, 893; school hygiene in, 1428
Japanese navy, the health of the, 279
Jarvis, Mr. J. W., My Home (review), 487
Jaundice in typhoid fever, 606
Jaw, ankylosis of teeth to the, 1270; phosphorus necrosis of the, 1417, 1552
Jaw, the lower, ankylosis of, operation for, 1202
Jaques, Mr. V. A., the Association of Public Vaccinators, 1293
Jejunostomy (see Gastro-jejunostomy).
Jenkins, Dr. E. M, improved hypodermic syringe, 811
Jenner, Sir W., Bart, obituary, 1674
Jenner Institute of Preventive Medicine, 1721, 1804
Jenner memorial, 30, 98
Jersey (see de Jersey)
Jerusalem, the Order of St John of, 1148
Jessett, Mr. F. B., hysterectomy, 802
Jessop, Mr. Walter, Ophthalmic Surgery and Medicine (review), 1065
Jew's objection to serve on a coroner's jury, 1283, 1347
Johannesburg, the climate of, 1099, 1174
Johnston, Dr. A., aberrant vesicles, 970
Johnston, Dr. D, the late, 177
Johnston, Surg-Gen W., the late, 279
Joint disease, Charcot's, amputation for, 1261, 1269
Joints, injuries of, massage and movement in, 1149
Jones, Dr. C., first aid, 1159
Jones, Dr. D. E, obituary, 842
Jones, Mr. H. E, suppuration in the tympanic cavity, 1267
Jones, Dr. J. H., pay wards, 1691
Jones, Mr. P. N, the Plaistow Maternity Charity, 779, 834
Jones, Dr. J. T., Davos Platz, 1174
Jones, Mr. R, osteomalacia, 1267, hip disease, 1624
Journalism, medical, in Maryland, 1748
Jones, Dr. W. B, sunshine, 256

Jubilee of W. G. Grace, 218; of the Somerset Archæological Society, 727; of the Midland Medical Society, 1006; of the Norwich Medico-Chirurgical Society, 1806
Jugular veins, both internal, removal of, 1373
Juler, Mr. H., gumma of the ciliary body, 617; interstitial keratitis, 517; myxo-sarcoma of the orbit, 1635

K

"Kaffir small pox," 773
Kanthack, Professor A. A, the science and art *of medicine*, 699; *formalin lamps*, 1049; *his* death, 1722; obituary, 1817
Keetley, Mr, fracture of the olecranon, 1562
Keighley, conscientious objection at, 960
Kellock, Mr. T. H. intussusception, 261; hydatid cyst of the lung, 892
Kelly, Dr. H. A, Operative Gynæcology (review), 553
Kelynack, Dr. T. N, Renal Growths (review), 755
Kennedy, Mr. A. E, a question of ethics, 836
Kennedy, Dr. R, musculo-spiral paralysis, 439
Kent, Mr. A. F. S, vaccinia, 1616
Kent, Mr. H. A., Roentgen ray screens, 1241
Keratitis, neuropathic, the pathology of, 18; *interstitial, with acquired syphilis*, 517, marginal, 1634
Kerr, Dr. H., emphysema, 1391
Kerr, Dr. J., cases exhibited, 1266, 1267
Kerr, Mr. J., the British Optical Association, 1431
Kerr, Dr. J. M. M., obstetric forceps, 604
Kerr, Dr. N. T., spleen and thyroid extract, 363
Keser, Mr. J, holy water and infection, 69
Kesteven, Mr. W. H., hospital reform, 174
Khartoum (see Soudan campaign)
Khyber Pass, the troops in the, 834, 898
Kidney, injuries of the, and operations on the, 14, 76, 129; *tuberculous disease of the*, 132, 722; tumours of the, 134, 1479; hæmorrhages from the, 439; the influence of peptone on the, 453; palpation of the, 606; moveable, tumour mistaken for, 1553; solitary sacral, 1637; rupture of the, 1638; bloating, treatment of, 1631
Kidneys, Diseases of the (review), 693
Kinematograph in medicine, 787; surgical operations shown by the, 902, 1169
King, Dr. A. F, Obstetrics (review), 1206
Kingdon, Dr. W. R., hystero epilepsy, 420
King's College, lectures for sanitary inspectors, 943
King's College Medical School, opening of the session and dinner, 950; scholarships awarded, 1096
King's evil, a herbalist's cure for, 1763
Kingsbury and Another *v.* Howard, 215
Kingston-on-Thames Victoria Jubilee Hospital, 948, 1621
Kipling, Mr. Rudyard, The Day's Work (review), 1273
Kirby (see West Kirby)
Kissing the Book, 36
Kitchener, Maj.-Gen., a peerage for, 893, 1292
Kitchens of Parisian eating houses, 1350
Klein, Dr. E, Elements of Histology (review), 1066
Knaggs, Mr. L, perineal abscess, 753, *Porro's* operation, 1703
Knee joints, sarcoma of the, 1330, foreign body in the, 1553, dislocation of the, 1630
Knee (see also Genu)
Knife, fist, and revolver, 1604
Knives, the carrying of, an Italian league against, 783
Knott, Dr. J, lesions of ulna 1481; herbalists, cures, 1768
Koch, Professor, his researches on malaria, 58, 582, 722, 891, 945; the travels of, 825, his researches on rinderpest, 1189
Kocher, Professor, intestinal obstruction, 295
Kola binace, 938
Koplik's spots, the diagnostic value of, 1348
Kossell, Professor, proteid molecule, 715
Krebs, Cardinal Nikolaus, pulse counting, 1034
Kynoch, Dr J. A. C, laparo-nephrectomy, 746

L

Labium majus, cyst of the, 830
Laboratory, the Government, work of, 1072
Labour, premature, obstructed, 550, obstructed by an ovarian cyst, 1268
Labyrinthitis, bilateral, acute, 1557, 1666
Lack, Dr. H. L, rhinitis, 1121
Lacrymal sac, chancre of the, 143
Lady medical officers, Chorlton guardians and, 1604
Laing, Dr. J M'G., the widow of, appeal on behalf of, 69, 122, 1174
Lake, Mr. R, forceps, 1068
Lamb, Mr. J. B, Epsom College, 1085
Lamp, a dangerous, 93

Lamplough, *Dr. C.*, Sanatorium for Consumptives at Nordrach, 1424
Lamp throwing, 56
Lamps, formalin, 1049
Lancaster (see Preston)
LANCET, THE, Commission on Sherry, 1135
LANCET, THE, Laboratory, analytical records from, 163 266, 537, 938, 1267, 1495
LANCET, THE, a contributor to, accident to, 339
LANCET, THE, Students' Number, 683 668
LANCET, THE, the Special Commissioner of, on the abuse of nursing charities, 679, 780
LANCET, THE, the Special Commissioner of, on *the organisation of the medical profession*, 837
LANCET, THE, the Special Commissioner of, on Maidstone after the epidemic, 1032
LANCET, THE, the *Special Commissioner of, on* Sanitation and Diphtheria at Tunbridge Wells, 1160
LANCET, THE, the Special Commissioner of, on the Battle of the Clubs at Tunbridge Wells, 1163
LANCET, *THE, the Special Commissioner of*, on typhoid fever at Belfast, 1259, 1436, 1584, 1667, 1737, 1812
LANCET, THE, analytical and other commissions of, in 1898, 1799
Landau, Dr, vaginal cœliotomy, 257
Landlords' liability, the limits of, 217
Landolt, Dr. E, Ophthalmological Therapeutics (review), 30
Landry's paralysis, 686
Lane medical lectures, 765
Lane, Mr. A., restoration of the ulna, 1332
Lane, Lieut. C. A., death under chloroform, 1364
Langley, Mr., vagus and sympathetic nerves of the cat, 716
Langton, Mr., presidential address, 1061
Laparo nephrectomy in an infant, 743
Lapponi, *Dr.*, physician to the *Pope*, 729
Largin in gonorrhœa, 582
Laryngeal tuberculosis, 449, 518; stridor and adenoid growths, 552; phthisis, forceps for the treatment of, 1068; diphtheria, tracheo*tomy for, antitoxin and*, 1551
Laryngismus, adenoids and, 669
Laryngitis, membranous, without diphtheritic bacilli, 409, 779, 935; with malarial hyperpyrexia, 1122
Laryngology, address on, 369; experimental research and clinical *experience in*, 369, 508
Larynx, congenital obstruction of the, 40
Larynx, &c., Diseases of the (review), 1067
Lascars, and infectious disease in, 1051, 1131, 1363, 1581
Laslett, Dr. E. E., a modification of the Weigert Pal stain, 331
Lateral sinus pyæmia, 449
Latham, Dr. A. C, abdominal dermoids, 1230
Latham, Mr. F, Sanitation of Domestic Buildings (review), 1482
Launceston Hospital, position of the staff at, 179
Laundries, the spread of disease through, 502
Lavatories, underground, 110
Lavatory accommodation for women and children, 335
Lawford, Mr. J. B, incarcerated iris, 616
Lawless, Dr. D. J., First Aid to the Injured (review), 280
Lawlessness in the streets, 493
Lawrence, Mr. F., Church Sanitary Association, 228
Lawrence, Mr. T. W. P., glioma of the pineal body, 1551
Lawrie, Lieut.-Col. E., an overdose of chloroform, 873; the mosquito and the malaria "parasite," 1468
Laws, Mr., retinitis, 1640
Lawson, Mr. A., *the conjunctival sac*, 517; myxo-fibroma of the optic nerve, 1332
Lay criticism of medical affairs, 1345
Lazarus-Barlow, Dr. W. S, Pathology (review), 31; carcinoma of the trachea, 1060; thrombosis of the hepatic vein, 1201
Lea, Dr. A, the sagittal fontanelle, 147
Lead as an abortifacient, 159
Lead colic, treatment of, 178; *amblyopia*, 1333
Lead poisoning in the Potteries, 237, 282; *from diachylon taken as pills*, 255, 742; *at a china factory*, 436; in Queensland, 512, amblyopia due to, 742; in an infant, 1473

LEADING ARTICLES

The Prisons Bill, 33—The battle of the Atbara and the medical service, 33—Vaccination and revaccination, 34—Street noises, 35—*A university for Birmingham*, 90—*The wholesomeness of public water supplies*, 93—Regina *v.* Collins, 91—The alleged dearth of qualified assistants, 155—The social and sanitary problems of Liverpool, 156—The Vaccination Bill, 157, 273, 330, 415—The election of persons to serve upon the *General Medical Council*, 213—The Executive Committee of the General Medical Council and amendment of the Medical Act, 214—Kingsbury and another *v.* Howard, 215—British Medical Association: the addresses in medicine and in surgery, 268, 269—British Medical Association: the President's address, 327—British Medical Association: the address in psychological medicine, 328—The holiday season, 329—The sanitary and medical aspect of the American field forces, 416—Pharmacology and synthesis, 417—Obstetric out-patient practice, 490—The Metropolitan Hospital Sunday Fund, 491, 1645—Irregular medical practitioners, 492—The bacteriology of portal cirrhosis, 492—The antitoxin monopoly in the United States, 559—*Hospital errors and* hospital abuse, 560—The water famine in East London, 561—Address to students, 589—A teaching university for London: a historical sketch, 591—The Presidential address at the British Association, 696—Relief maps, 697—The victory at Omdurman, 698—Italy and political assassination, 757—Heat and insanity, 758—The physics of smell, 758—Typhoid fever at Maidstone, 759—Tetany and gastrectasia, 814—The Italian character, its pathology, 815—The soldier's morals and health, 816—Unqualified locum tenents, 817—The practical application of bacteriology to commerce, 832—A central *bacteriological* laboratory for London, 882—Vaccination and legislation, 884—The conscientious objector, 885—Professor Virchow's Huxley Lecture, 940—The Sirdar's despatch, *940*—The introductory addresses, 941—Medical education and the modern university, 999—Unchristian nescience, 1000—The inspection of milk and meat in London, 1001—The Indian Government and the plague, 1069—State medicine and party politics, 1069—The future water-supply of London, 1070—The ethics of club practice, 1071—The friendly societies and the medical profession, 1141—The physique of boys entering public schools, 1142—The Charity Organisation Society and medical relief, 1142—The plague in Vienna, 1143—The Vaccination Order (1898), 1210, 1412—The entries at the medical schools for 1898-99, 1212—Regina *v.* Whitmarsh, 1212—Reform in the Royal College of Surgeons of England, 1276—The commission on the plague in India, 1277—The Royal Commission on the Metropolitan Water-supply, a *résumé*, 1278—The legal aspects of the recent trials for criminal abortion, 1279—The approaching meeting of the General Medical Council, 1342—Luccheni, an "anthropo-psychiatric" study, 1342—The question of indecent literature, 1344—The regulations for admission to the Royal Army Medical Corps, 1413—The drunkenness of women and the death of children, 1413—County medical officers of health, 1414—The work of the General Medical Council, 1487—The Royal *College of* Surgeons of England, 1488—The control of tuberculosis, 1489—The disciplinary function of the General Medical Council, 1559—The suggested school of tropical medicine, 1560—The Pharmacopœia of the future, 1560—The payment of public vaccinators, 1561—The report of the medical officer of the Local Government Board, 1644—Regina *v.* Wallace, 1645—Defiant anti-vaccination, 1712—Hygiene and the claims of art and history, 1713—A lay experiment in medical practice, 1714—The National Association for the Prevention of Tuberculosis, 1715

Leadless Glazes, Researches on (review), 1338
Lean's Royal Navy List, 172

LECTURES.

ANNANDALE, Mr. T.:—
  Address in Surgery: the Present Position of Surgery, delivered at the annual meeting of the British Medical Association at Edinburgh, July, 1898, 249

BARKER, Mr. A. E.:—
  Remarks on the Treatment of Fractured Bones by Operation, delivered at University College Hospital, 467
  A Clinical Lecture, being Some Details in Posterior Gastro-enterostomy, with *Two* Successful Cases, 1249

BENNETT, Mr. W. H.:—
  An Address on Varix: its Causes and Treatment, with especial reference to Thrombosis, delivered on Oct. 6th at the inaugural meeting of the Nottingham Medico-Chirurgical Society, Session 1898-99, 973

BROADBENT, Sir W., Bart.:—
  An Address on the Prevention of Consumption and other Forms of Tuberculosis, delivered at the Technical College, Huddersfield, on Oct. 22nd, 1898, 1101

CAMERON, Sir C. A.:—
  Presidential Address on the Public Health of Dublin, delivered at the Congress of Public Health, held under the auspices of the Royal Institute of Public Health at Dublin, August 18th to 23rd, 529

CAMPBELL, Dr. H.:—
  An Essay on the Marriage of the Unfit, 678

CARPENTER, Dr. G.:—
  Post-graduate Lecture (Abstract of a) on the Differential Diagnosis of Abdominal Diseases in Children, delivered at the Evelina Hospital for Sick Children on March 23rd, 1898, 789

CLIPPINGDALE, Dr. S. D.:—
  An Address on Some Considerations of the Life and Work of the General Practitioner, delivered on Oct. 7th at the Inaugural Meeting of the West London Medico-Chirurgical Society, *Session* 1898-99, 1104

CROOKES, Sir WILLIAM:—
  Presidential Address on the Wheat-supply of the World, the latest Achievements of Science, and the Position of Psychical Research, delivered before the British Association for the Advancement of Science at Bristol on Sept. 7th, 669

CULLINGWORTH, Dr. C. J.:—
  Introductory Address on the Importance of Personal Character in the *Profession of* Medicine, delivered at the Opening of the Winter Session of the Medical Department of the Yorkshire College, Leeds, on Oct. 3rd, 912

DELÉPINE, Professor S.:—
  A Lecture on Tuberculosis and the Milk-supply, with some General Remarks on the Dangers of Bad Milk, delivered at Sudbury Hall at the invitation *of Lord Vernon, on* Thursday, Sept. 15th, 1898, 733

DENT, Mr. C. T.:—
  An Address on the Development of London Hospitals during the Nineteenth Century, delivered at the Portman Rooms on Nov. 4th, 1893, 1381

DUCKWORTH, Sir D.:—
  The Harveian Oration on the Influence of Character and Right Judgment in Medicine, delivered before the Royal College of Physicians of London on Oct. 18th, 1892, 1037

DUNN, Mr. P.:—
  A Post-Graduate Lecture on Corneal Ulcers and their Treatment, delivered at the West London Post-Graduate College on July 16th, 1898, 1043

EWART, *Dr.* W.:—
  The Harveian Lectures on Disease, its Treatment and the Profession of Medicine in 1899: delivered before the Harveian Society on Dec. 1st, 8th, and 15th, 1898.
  Lecture I., 1607
  Lecture II., 1683
  Lecture III., 1755

FRASER, Professor T. R.:—
  Address in Medicine: Medical Progress in the Past Quarter of a Century, delivered at the Annual Meeting of the British Medical Association at Edinburgh, July, 1898, 243

GIBSON, Dr. G. A.:—
  An Address on Elements of Prognosis and Principles of Treatment in Cardiac Disease; being the introduction to a discussion at the Medico-Chirurgical Society of Norwich, delivered on Nov. 1st, 1898, 1177

HORSLEY, Mr. V.:—
  Address (Abstract *of* an) on the Work of the General Medical Council, delivered before the Manchester Medico-Ethical Association at the Memorial Hall, Manchester, on Dec. 16th, 1898, 1692

McVAIL, Dr. J. C.:—
  Address (Abstract of an) on the Medical Profession and the State: their Relationship, especially with regard to Vaccinal Legislation, delivered at the Conference of Medical Officers of Health held in Birmingham on Sept. 28th, in connexion with the Annual Congress of the Sanitary Institute, 849

MARTIN, Dr. S.:—
  The Croonian Lectures *on* the Chemical Products of Pathogenic Bacteria considered with special reference to Enteric Fever, delivered before the Royal College of Physicians of London on June 14th, 16th, 21st, and 23rd, 1898.
  Lecture III., 1
  Lecture IV., 71

MOORE, Dr. J. W.:—
  An Address (Abstract of) on Ireland: its Capital and Scenery, delivered before the Section of Chemistry and Meteorology at the Congress of the Royal Institute of Public Health held in Dublin, August 18th to 23rd, 1898, 534

MORISON, Dr. A.:—
  The Morison Lectures (Abstract of) on the Relation of the Nervous System to Disease and Disorder in the Viscera, delivered before the Royal College of Physicians of Edinburgh on Nov. 7th, 9th, and 11th, 1893
  Lecture I., 1612
  Lecture II., 1688
  Lecture III., 1751

ORD, Dr. W. M.:—
  The Bradshaw Lecture on Myxœdema and Allied Disorders, delivered before the Royal College of Physicians of London on Nov. 10th, 1243

PALMER, Mr. J. F.:—
  An Inaugural Address on Certain Undefined Factors in the Spread of Disease, delivered before the Chelsea Clinical Society on Oct. 18th, 1898, 1367

PICK, Mr. T. P.:—
  The Bradshaw Lecture on the Union of Wounds, delivered before the Royal College of Surgeons of England on Dec. 7th, 1898, 1531

RUSSELL, Mr. E. H.:—
  A Clinical Lecture on Fracture of the Neck of the Femur in Childhood, delivered at the Melbourne Hospital for Sick Children, 125

RUTHERFORD, Professor W.:—
  An Address on Tone Sensation with Reference to the Function of the Cochlea, delivered at the Opening of the Section of Physiology at the Annual Meeting of the British Medical Association at Edinburgh, July, 1893, 389

SANSOM, Dr. A. E.:—
  The Purvis Oration on some Practical Points in the Treatment of the Chronic Forms of Heart Disease due to Rheumatism, delivered before the West Kent Medico-Chirurgical Society on Dec. 2nd, 1898, 1536

SAUNDBY, Dr. R.:—
  Introductory Address on Modern Universities, delivered at the Opening of the Winter Session of the Medical School at University College, Cardiff, on Oct. 7th, 1898, 980

SMITH, Mr. J. GREIG:—
  Address (Abstract of an) on Intestinal Cancer and its Treatment, delivered before the *Leamington* Medical Society on March 22nd, 1897, 189

SWAIN, Mr. P.:—
  An Address on Some Clinical Experiences, delivered before the Torquay Medical Society on June 15th, 1898, 465

TREVES, Mr. F.:—
  Inaugural Address on Some Rudiments of Intestinal Surgery, delivered before the Midland Medical Society at Birmingham on Oct. 20th, 1898, 1161

TUKE, Sir J. B.:—
  Address in Psychological Medicine, on Modern Conceptions of the Etiology of Insanity, delivered at the annual meeting of the British Medical Association at *Edinburgh, July*, 1898, 311

VIRCHOW, Professor RUDOLF:—
  The Huxley Lecture on Recent Advances in Science and their Bearing on Medicine and Surgery, delivered at St. Martin's Town Hall at the opening of the Winter Session of Charing-cross Hospital Medical School, Oct. 3rd, 1898, 909

WEATHERLY, Dr. L. A.:—
  Remarks on Medical Progress, being an Abstract *of a* Presidential Address to the Bath and Bristol Branch of the British Medical Association, 851

WHITE, Dr. W. H.:—

A Clinical Lecture on a case of Gall stones in the Common Duct causing Simple Infective Cholangitis, delivered at Guy's Hospital on Nov. 19th, 1898, 1455

Ledlard, Mr. H. A., excision of the cæcum, 408; periostitis of the neck of the femur, 807
Lee, Mr. Sidney, Dictionary of National Biography (review) 935
Leech, Dr, the new Pharmacopœia, 1269
Leeches in water-pipes 1083
Leeds infectious hospitals, opening of, 967
Lees, Dr D B, rheumatic dilatation of the heart, 23 29, venous thrombosis, 206; heart disease, 371
Leg, ulcer of the, treatment of, 850; short, in hip disease, 1624
Legitimate enterprise, what is, and what is "stealing a march," 1743
Legrand, Dr M. A, Les Troupes Coloniales (review), 265
Leicester, water-supply of, 1152, 1237
Lennane, Mr H, the Irish Club, 836
Lepers in Hamburg, 1241
Leprosy, the study of, in Breslau, 1375; in New South Wales, 1435; report on, 1572
Leucocytes, eosinophilic, increase of, in trichinosis, 419
Leucocytosis, 229
Leumann, Capt. B H. F, plague, 718
Levy, Dr. A. G, thyroidectomy, 446
Lewers, Dr, ovariotomy, 400; specimens exhibited, 1634
Lewers, Mr. A., presentation to, 1237
Lewis, Mr. F. W, presentation to, 497
Lewis Carroll cot, 1237
Lewisham, medical reform at, 167
Lewisham Infirmary, wards for mental cases, 1572, 1677
"Liberator" Fund, 1749
Liège, *congress of hydrology, &c.*, at, 459 944
Life assurance, medicine in relation to, 373, 449, 450; cardiac disease and, 374; advanced premium in, limited family vitality and, 375; middle-ear disease and, 375; pregnancy and, 375, extra rating as a statistical problem, 449; gout as a factor in, 449; coloured race in, 902
Life assurance offices, the medical advisers of, 449; appointments, fraudulent offers of, 462, agent, an enterprising, 1583
Life assurance (see also Versicherungs Diagnostik)
Life insurance examinations, medical fees for, 1160, 1228
Ligatures, aseptic, 1435
Light, Dr. E M, pachydermia, 321
Lightburne, Mr E. A., accouchement on top of a tramcar, 1379
Lightning stroke, death from, 531, 773, 966, recovery from, a man struck by, in a railway train, 1304
Limbs, artificial, in the navy, 393, a maker of, on amputation, 586
Lime water, weak, prosecution for selling, 458
Lincoln, the need of an isolation hospital at, 1153
Linnell, Dr. E. H, The Eye as an Aid in General Diagnosis (review), 1338
Lipscombe, Dr. J. T. N, obituary, 968
Ligatures, aseptic, 1486
Lister, Lord, on vaccination, 426; a degree conferred on, 1003, opening of the Thompson-Yates laboratories by, 1010
Lister, Dr. T. D, *membranous rhinitis*, 1226, sarcoma of heart, 1329
Literary intelligence, 61, 153 523, 713, 724, 843, 904, 967, 1095, 1140, 1301, 1600
Literature, medicine and, 1065, indecent, the question of, 1344, 1431
Litholapaxy, 1250, operations alternative *to*, 1254
Lithotomy, suprapubic, 205
Little, Mr E. M, coxa vara, 440, tendon transplantation, 1406
Little, Dr J. F., Medical Graduates' College and Polyclinic, 159, 1507
Littlejohn, Sir H, address in State medicine, 297
Littlewood, Mr. H, temporo-sphenoidal abscess, 502, rupture of the bladder, 868, various specimens exhibited, 1203, 1479, 1636, 1637
Liver, abscess of the, 262, 1731, cirrhosis of the, 292, 293, 393, 492; congestion of the, 293, acute yellow atrophy of the, 1336, gumma of the, operation for, 1476, cirrhosis of the, recovery *from*, 1552, painless *enlargement of* the, 1637
"Liver-cough" in hepatoptosis, 1420
Liver (see also Foie)
LIVERPOOL, CORRESPONDENCE FROM —The mayor of Bootle, 176, 1587 — Health of Birkenhead, Dr. Marsden's report for 1897, 176—Children's Convalescent *Home*, West Kirby, 176 1433—Bequests and donations to hospitals, 176, 233, 436, 1090, 1433—New Cheshire Infirmary, 176—Hospital Sunday and Saturday Funds, 233, 1297 — University College, Liverpool, 233, 840, 900, 962, 1090, 1166, 1297, 1433, 1741—Hospital for Women, Shaw street, 233—Sanitary condition of Wallasey, &c, 233—Prosecution under the Factory Act at St. Helens, 436—Revocation of the appointment of a medical referee under the Workmen's Compensation Act, 436—False charge against a Wigan surgeon, 436—Low death rate at Southport, 437—Liverpool City Hospitals, contemplated extensions, 719—Liverpool water-supply, 719—Death of Dr. J. Wallace, 719—The new Vaccination Act, 719—Closing of a Liverpool cemetery, 719—Liverpool school board and the scholars eyesight, 719—Charge of aiding in procuring abortion, 719—The Thompson Yates laboratories, 840, 900—*Distinction for a Liverpool* student, 840—Hospital Sunday in Southport 840—Liverpool Medical Institution, 840, 1557—The West Derby board of guardians and the treatment of tuberculosis, 962—The late Sir A B. Forwood, 962—The conscientious objector, 962—Stanley Hospital, 1090—Professor Virchow's visit to the Royal Infirmary, 1090—Opening of the Albert Infirmary, Winsford 1166—Honour to Professor Oliver Lodge, 1297—Medical visitor to licensed houses *under the Lunacy Act*, 1297—*Liverpool select* vestry and vaccination, 1297—Royal Infirmary and the Workmen's Compensation Act, 1297—Proposed hospital in Liverpool for chronic diseases of children, 1437—Royal Southern Hospital, 1433—Pathological Diagnosis Society, 1433—Liverpool Biological Society, 1433 — Liverpool Crematorium Company, 1587—Proposed small-pox hospital at Fazakerley, 1587—The new Northern Hospital, 1587 — North-Western Sanitary *Inspectors' Association*, 1587 — Mill road Infirmary, 1741—Ladies' Charity and Lying in Hospital, 1741—Centenary of the Liverpool Athenæum, 1741

Liverpool, population of, 60, medical report, 105, the social and sanitary problems of, 156, insanitary areas and the drink question in, 769, study of tropical diseases, 1435
Liverpool, University College, museum of hygiene, 116, laboratories of physiology and pathology, 763, 825, 840, 900 954, 999, 1003, further additions to, 1077, 1237
Liverpool Medico-Chirurgical Journal (review), 811, Health Committee, 1215
Living animals, experiments on, 117, 183, 305, 382
Llanelly, water supply of, 1526
Local Government Board, medical inspectors of the, reports of, 47, 575, 832, 1056, new medical inspectors of the, 499, inquiry into the Maidstone epidemic, 759, 771, annual report of the (1897 98), 943, and the Sheffield sanitary authority, 1491; the medical officer of the, report of, 1644, vaccination returns of the, 1806
Local Government Board for Scotland, Dr J B Russell appointed medical member, 946
Loeb, Mr. C S, medical charities, 1019
Lockwood, Mr C B, gastro-jejunostomy, 751
Lockwood, Mr. H, foreign body in the cheek, 1481
Locum tenents, the payment of, by public bodies, 68, the demand for, 564; unqualified, 817
Locust in the evolution of the malaria parasite, 1764
Londe, Mons A, Radiographie (review), 1710
London, the teaching of tropical diseases in, 158, asylum accommodation in, 182, 238, the crude sewage of, 274, rabies in, 332, a teaching university for, 591, a central bacteriological laboratory for, 819 883, exhibition at the Mansion House 834; the outgoing Lord Mayor, 945, the inspection of meat and milk in, 1001, future water-supply of, 1070, medical, 1255, the anti toxin treatment of diphtheria *in, compared* with that in Paris and Berlin, 1457
London, the Prince of Wales's Hospital Fund for, 162, 491, 709, 1234, 1491, 1569, 1795
London and suburbs, geological *model of*, 162, 697
London, vital statistics of, monthly, 169, 429, 775 1017, 1356, 1657, weekly (see Vital statistics, weekly, health of English towns)
London, diphtheria in (see Diphtheria in London)
London, South, a new hospital for, 116, North-East, the water famine in, 690, 236, East (see East London), Port of, sanitary work in, 1011
London, the City of, a medical alderman of, 1650
London County Council, and street noises 35, the asylum committee of the, report of, 701
London Hospital, financial position of the, 727, a patient at the, alleged ill treatment of, 1663
London Hospital Medical College, prize list, 236, 939
London post-graduate course, 607, 889, 1738, hospitals, the development of, during the nineteenth century, 1381
London School *Board*, lectureships of the, 63
London School of Medicine for Women, the laboratories at the, 160
London Society of Master Plumbers, 38
London University Commission, 274, 342, 591, 1423, 1793; pass lists, 360, 1449, 1520; University College (see University College, London)
London water-supply, 226, 1070, 1147, 1218
Londonderry, the proposed new county asylum for, 234, 295
Londonderry Lunatic Asylum, overcrowding in, 510
Long, Mr. W., tuberculosis in cattle, 932
Longevity and wine, 186; comparative in the countries of Europe, 913
Loomis Sanatorium, the treatment of tuberculosis at, 60
Loomis, Dr. A. L, Practical Medicine (review), 263
Lord, Mr. J. R (not Mr. J. R Lunn), hypertrophy of the pineal body, 1591
Lord Chief Justice on the medical profession, 139
Lord Mayor's day, 1281
Lotteries, charitable, 610
Love, Mr W. S, the late, 510
Low, Dr. Bruce, enteric fever, 47
Low, Mr., life assurance, 449
Lowe, Dr J, vaccination, 872
Lower extremities, extreme deformity of the, 1199
Lubeck Mr W. J, premature labour, 550
Lubet-Barbon, Dr. F, *Mastoid Abscesses* (review), 1556
Lucas, Mr. R. C, excision of intestine, 1331, 1435
Lucas Championnière, Dr, the case of the Prince of Wales, 889, 902
Lucheni, an "anthropo-psychiatric" study, 1343, the last of, 1504
Ludovici angina, cases of, 408, 747
Luff, Dr A. P, piperidine, 280, 507, enlarged spleen, 1127; Gout (review), 1407, 1506
Luminous sugar, 857
Lunacy, the Commissioners in, annual report of, 812
Lunacy in Dorsetshire, 453; in London, 701 in the colony of Victoria, 779, in Ireland, 931
Lunacy cases, are two medical certificates necessary for? 271
Lunatic asylums in Victoria, 725; asylums, fires in, 1720, 1815
"Lunatick asylums," 1749
Lunatics, pauper, accommodation for, in Devon, 383, workhouse, the certifying of, 1347
Lung, hydatid cyst of the, 992, hypertrophy of the, 1059, the apex of the, phthisis of, surgical treatment of, 1318, malignant disease of the 1339
Lunn, Mr. J. *R*, only a pauper, 279, hypertrophy of the pineal body (see Lord, Mr. *J R*, and *Errata*), 1551
Lunn, Mr K., a school for the deaf and dumb, 786
Lupus, calomel in, 234, erythematosus nature and treatment of, 519, x rays *in*, 1129, thyroid colloid in, 1202; of the conjunctiva, 1267, inoculation of a surgeon with 1267; *x rays in*, 1744
Luscombe, Mr. T B, Cæsarean section, 993
Lustig, Professor Alessandro, plague, 1219
Luxationen, *Fracturen und, Atlas der (review)*, 89
Luxor Hospital, 59
Lyle, Mr H, ringworm, 934
Lymph gland juice in the treatment of cancer, *1020*
Lymphadenitis, chronic cervical, the treatment of, 769
Lynch Dr, of Walsall the case of 237
Lyon, Dr A B, presentation to, 1031
Lyon, Dr T G, vitality, 1085, Sanatorium for consumptives at Nordrach, 1424, blood plasma, 1695

M

Maberly, Dr F H, insect stings 731
Maberly, Mr J, South African drugs in dysentery, &c., 127, rinderpest in South *Africa*, 1129
Macallum, Professor, nerve cells 452; test for phosphorus 564, 715
MacCarthy, Mr. D J, negro children 1601,

Macartney, Dr. D., rupture of the patellar ligament, 754
Macaulay, Fleet-Surgeon C. A., the late, 432; obituary, 433
Macaulay, Mr. S., presentation to, 382
McBride, Dr. Peter, address on laryngology, 369; life assurance, 375
McCalman, Dr. R. G., Italy and political assassination, 899
McCandlish, Mr. J. M., life assurance, 449
McCann, Dr. F. J., hysterectomy, 863; tubal pregnancy, 1263
McCardie, Dr. W. J., nitrous oxide anæsthesia, 319; A.C.E. inhaler, 1203; mixture of chloroform and ether, 1621
McCausland, Dr. A. S., drainage of Swanage, 225
McCausland, Mr. R. B., ligature of subclavian artery, 1480
MacConkey, Mr. A., staining bacteria, 1252
MacCormac, Sir W., re-elected Pres. R.C.S. Eng., 182
McCutcheon, Mr. A. C., the late, 348
MacDermot, Dr. E. D., obituary, 1363
McElligott, Mr. M., the Royal University of Ireland, 1505
MacEwan, Mr. Peter, Pharmaceutical Formulas (review), 162
MacFadyen, Dr. A., bacteriology, 959
McGillivray, Dr., paralysis of the sympathetic, 1064
McGrath, Mr. J. J., presentation to, 458
MacIntyre, Dr. John, transposition of the viscera, 455
Mackay, Dr. G., colour-blindness, 391
Mackay, Dr. W. A., ulcer of the stomach, 1701
McKendrick, Dr. J. S., tetany, 795
Mackenzie, Dr. G. H., nasal curettes, 1558
Mackenzie, Dr. H., vascular murmur, 1327
Mackenzie, Mr. M. M., the General Medical Council, 1507
Mackie, Dr. F. P., black-water fever, 1470
Maclean, Surg.-Gen. W. C., obituary, 1361
Macleod, Dr. H. W. G., surgical dressing-table, 939
MacLulich, Dr. P., spina bifida, 1700
Macmahon, Dr. J. R., embryological curiosity, 686
MacMunn, Mr. J., rectal speculum, 1553
McNaughton, Dr. J., typhoid fever, 443
Macnaughton-Jones, Dr. H., ovariotomy, 259, 263
Macpherson, Maj. W. G., the American Red Cross, 507
McVail, Dr. J. C., annual report for Stirlingshire, 423; the medical profession and the State, 849, 884; Sanitary Institute Congress, 960
McVicar, Dr., gastrostomy, 1406
McWeeney, Dr., septico-pyæmia, 1481
Madden, Mr. F. H., the *Saturday Review* and medical students, 1088
Maddox, Dr. E. E., Ocular Muscles (review), 878
Madrid, the sanitary institutions of, 109, 1796
Magherafelt, sanitary condition of, 437
Maguire, Dr. R., congenital affection of the heart, 1127
Maidstone, enteric (or typhoid) fever in, 429, 709, 771, 1022; after the epidemic, 1022
Maillard, Surg. W. J., R.N., Victoria Cross awarded to, 1564, 1579, 1659
Main, Dr. R., presentation to, 843
Mair, Dr. Darra, annual report for Croydon rural district, 504
Maitland, Lieut.-Col. J., granuloma of the pudenda, 1019
Major, Dr. H. C., presentation to, 1678
Malaria in its epidemiological aspect, 376; pigmentation of lymphocytes in, 376; plague and, antagonism between, 508; Professor Koch's researches on, 68, 682, 724, 891, 945; the temperature in typhoid fever modified by, 772; in Rhodesia, 772, 798; hyperpyrexia from, laryngitis with, 1122
Malaria commission, 826, 840; parasite, the mosquito and the, 1468
Malaria (see also Typho-malaria)
Malarial affections of the eye, 376; parasite, the mosquito and the, 428, 1565; fever, hyperpyrexia in, 507; infection, the inoculation theory of, 1461, 1541; fever, the semilunar and flagellate bodies of, 1620; parasite, the evolution of the, the "blind fly" and the locust in, 1764
Malcolm, Mr. J., metabolism of nuclein, 453
Malformation, malposition, or absence, congenital: fœtus, 686, 1194; patella, 1127; heart, 1127, 1405; one or both hips, 1130, 1267, 1405, 1406, 1638; heart and blood-vessels, 1194; alimentary system, 1194; genito-urinary system, 1195; shoulder, 1202; patella, 1329; femur, 1334; bladder, 1337; choroid, 1635; uterus and vagina, 1637; kidney, 1637
Malformations met with in the post-mortem room, 1194
Malherbe, Dr., Chirurgie de la Face (review), 1207
Malignant pustule, case of, 25; disease, excision of, immunity after, 1129
Malta, hospital accommodation at, 383
Malton, public vaccinators, 1501
Mamma, butter cyst of the, 1060
Manasseh, Mr. A. J., suprapubic lithotomy, 205

Manchester, Correspondence from.—The infirmary question, 56, 232, 1508, 1668—Grocers and boric acid, 56—Lamp-throwing at Hyde, 56—Owens College, 111, 1368—Poisoning at Crumpsall, 111, 232—The Burnley Hospital scandal, 111—Sanitary Inspectors' Association, 111—Manchester Volunteer Medical Staff Corps, 111—Diphtheria at Urmston, 233—Medical officer to the Salford school board, 233—The "weighting" of textiles, 347—Cotton Districts Convalescent Fund, 328, 1230—Stockport union workhouse, 328—Ptomaine poisoning at Oldham, 509—Deaths from diarrhœa, 509—Hospital Sunday and Saturday Fund, 510—Henshaw's Blind Asylum and the guardians, 718—Enlargement of Monsall Fever Hospital, 718—Open spaces for Manchester, 718—Unsound meat, 719—Infectious diseases at health resorts, 781—Poisoning attributed to potted shrimps, 781—An anti-vaccinator, 782—Conference on the sewage question, 782—Insanitary board schools, 961—Typhoid fever at Leigh, 962—Poisoning from bad food, 962—Carbolic poisoning, 962—Vaccination: a ray of light, 962—"Pure" air in Ancoats, 1089—Moss Side sewage farm, 1089—Ancoats Hospital, 1089—Manchester and Liverpool sewage, 1089—Feeble-minded children, 1089, 1230—Manufacturers and river pollution, 1230—Typhoid fever at Stockport, 1230—Infectious diseases hospital for Oldham, 1230—Salford Corporation Bill, 1367—Victoria University, 1367—Death from water-gas, 1368—Bequests to medical charities, 1368—The danger of flannelette, 1508—Agricola on milk, 1508—Oldham and the new Vaccination Act, 1669—Salford Sanatorium, 1669—Proposed sanatorium for phthisical patients, 1669—Bacterial treatment of Manchester sewage, 1816—Bromoform poisoning, 1816

Manchester: street hawking by children in, 784, 821; female health visitors in, 1005; annual medical report for, 1429
Manchester prison case, 183; Royal Infirmary, presentation of a picture, 304; Ship Canal, pollution of the, 421; Children's Hospital, opening of a new ward, 784; milk, 945, 1174; Medico-Ethical Association, 1692; Royal Infirmary Students' Gazette (review), 1710
Manchester, port of, report of medical officer of health, 105
Manchester and Salford sanitary association, 93
Mania in lead-poisoning, 255
Mann, Professor D., aortic aneurysm, 1333; poisoning by water-gas, 1333
Mansel-Howe, Dr., registration of plumbers, 727, 904
Manson, Dr. P., addresses on tropical diseases and on malaria, 376; Seamen's Hospital Society, 1815
Manson, Mr. R. T., Zig-Zag Ramblings of a Naturalist (review), 881
Manures, nitrogen in, 673
Manuscript, an unsigned, 1452
Maps, relief, 162, 697
Margarine, the sale of, 575
March, Rosa E., Where Two Worlds Meet (review), 1409
Margate Hospital, 1565
Marillac, Henri, Comte de, climate of Johannesburg, 1174
Markethill, fever at, 782
Marriage of the unfit, 678
Marsden, Dr. R. S., annual report for Birkenhead, 176, 504; filaria strongylus, 442
Marseilles, Congress of Gynæcology, &c., at, 568
Marsh, Mr. H., growth and deformity, 62; sarcoma of the knee-joint, 1330
Marshall, Mr. C. D., glioma of the optic nerve, 1126
Marshall, Surg.-Maj. J. J. de Z., Stretcher Drill (review), 32
Martin, Mr. A. H., battle of the clubs, 433
Martin, Mr. C., surgery of the ovary, 442, 538; abdominal section, 1062, 1401
Martin, Dr. E., Genito-urinary Surgery and Venereal Diseases (review), 88
Martin, Dep. Insp.-Gen. J. H., carotid aneurysm, 84
Martin, Dr. S., chemical products of pathogenic bacteria, 1, 71
Martindale, Mr. W., Extra Pharmacopœia (review), 152
Maryland, medical journalism in, 1748
Marylebone Workhouse, untrained nursing at the, 161, 279
Masonic (see Royal Masonic and Freemasonry)
Massage and movements in injuries of joints, 1149; in anæmia, 1478
Massage establishments, the medical profession and, 1073
Massage, A Manual for Students of (review), 1709
Massey, Dr. G. B., Conservative Gynæcology and Therapeutics (review), 809
Mastoid disease in infants, 371
Match trade, yellow phosphorus in the, 237, 276, 382; factories, the French Government, 331
Matches, non-poisonous, 557, 825
Materia Medica, Elements of (review), 765; Pharmacy, Pharmacology, and Therapeutics (review), 1642
Mathew, Dr. G. P., Obstetric Cases (review), 1066; midwifery forceps, 1484
Matignon, Dr. J. J., poisoning by atriplex, 1078
Matson, Dr. A. J., the A. J. Barlow fund, 386
Matthews, Mr. S., a herbalist, prosecuted by the Society of Apothecaries, 587
Matthews, Mr. V., first aid, 1186, 1227
Maude, Mr. A., appendicitis, 935
Maxwell, Mr. W. H., Town Refuse (review), 693
Maylard, Mr. A. E., gastrostomy, 475
Mayne, Mr. J. W., the water test as applied to sewer connexions, 1169
Mayor (see also London, Lord Mayor of, and Lord Mayor's Day)
Mayors, medical, 176, 1280
Measles, mental disorders in, 420; in Victoria, 724; notification of, 890; and chicken-pox, concurrent, 1199; Koplik's spots in, the diagnostic value of, 138; the notification of, St. Martin's Vestry and, 1493
Meat, diseased or unsound, prosecutions for selling or possessing, 69, 719, 1148; foreign, unsound or diseased, 183, 305; tuberculous, 953; diseased, cooked previously to sale, 1378
Meat, poisoning by, 509, 889; the inspection of, in London, 1001; extract of, discussion on, 1406
Meat globules, 266; supplies, tuberculosis and, 1288
Meath Home of Comfort for Epileptics, 123
Mediastino-pericarditis, 1765

MEDICAL SOCIETIES.

Aberdeen Medico-Chirurgical Society.—The society's ownership of the site of its hall recognised, 1588; annual dinner, 1742
Æsculapian Society.—Presidential address, 1127—Exhibition of cases, 1258—Diabetes; Exhibition of specimens, 1406—Acute relapsing idiopathic neuralgia, 1552—Exhibition of specimens, 1708
American Climatological Association.—Annual meeting, 727
Anglo-Continental Medical Society.—Luncheon in Edinburgh, 287
Beckenham and Penge Medical Society.—General meeting, 1204
Bedford Medical Society.—Discussion on diphtheria, 1268
Birkenhead Medical Society.—President's address, 1065—The practical application of antiseptics in general midwifery practice, 1338—Causation, differential diagnosis, and treatment of torticollis, 1708
Bombay Medical Union.—Plague prophylactic inoculation, 1437, 1552
Bournemouth Medical Society.—Annual meeting, 1204
Bradford Medico-Chirurgical Society.—The life and times of John Milligan; Strangulated hernia; Exhibition of cases and specimens, 1266—Grave anæmia; Effects of frequent and infrequent feeding, 1478
Brighton and Sussex Medico-Chirurgical Society.—Perforated gastric ulcer, 1761
Bristol Medico-Chirurgical Society.—Presidential address, 1063—The library, 1215—Exhibition of cases and specimens, 1406, 1708
British Balneological and Climatological Society.—*Election of officers*, 181—General meeting, 1269—Climate of the Egyptian Soudan, 1639
British Gynæcological Society.—Ovariotomy, 259—Exhibition of specimen; Dysmenorrhœa; Ovariotomy; The development of ovariotomy, 263—Some points in the after-treatment of cases of abdominal section, 1062, 1401—Pelvic surgery; Exhibition of specimens, 1635
British Laryngological, Rhinological, and Otological Association.—Exhibition of cases, 439, 1337—Election of officers, 1031
British Orthopædic Society.—Exhibition of cases, 1406—Tendon reimplantation, 1707
Chelsea Clinical Society.—Certain undefined factors in the spread of disease, 1131, 1307—Indications for operation in cases of adenoid vegetations of the naso-pharynx, 1407

Clinical Society. — President's address: myositis ossificans, 1051 — Exhibition of cases, 1272—Primary sarcoma of the knee-joint; Exhibition of cases, 1330—Green-coloured urine; Operative treatment of gumma of the liver; Laparotomy for gastric ulcer, 1476—Chancre; Pancreatic calculi Acute hæmorrhagic pancreatitis, 1632
Cork Medical and Surgical Society — University education in Ireland, 1091—Annual dinner, 1439
Dermatological Society of Great Britain and Ireland — Urticarial rash in a dog, 116—Exhibition of cases, 1204, 1481
Edinburgh Medico-Chirurgical Society.—Exhibition of cases and specimens; Tuberculous neuritis; Acute yellow atrophy, 1335—Exhibition of cases and specimens; Pulmonary regurgitation; Sulphonal poisoning, 1637—Exhibition of cases and specimens, 1766
Edinburgh Obstetrical Society.—Election of an honorary fellow, 1641—Exhibition of specimens; Analogues of the male and female genital tract; The position of the *promontory*, 29—Surgical interference in gynæcology, 1404—Exhibition of specimens; Chronic inversion of the uterus; Pelvi-abdominal disease; Ectopic pregnancy, 1767
Epidemiological Society.—Dinner, 137—Sanitary progress and its results, 1400
Folkestone Medical Society.—Prevention of tuberculosis, 932
Forfarshire Medical Association.—Paralysis of the right cervical sympathetic, 1064—Œdema neonatorum; Gastrostomy, 1406—Exhibition of cases, 1707
French Academy of Medicine.—Prophylaxis *of tuberculosis*, 1113—*Strabismus*; Creasote in pulmonary phthisis, 178—Notification of infectious diseases; Pathology of caseous pneumonia; Regeneration of mucous membrane, 255; Suprapubic cystotomy, 437—Pulmonary streptococcus infection, 721—Treatment of epilepsy, 783—X rays in surgery; Treatment of gonorrhœa, 901—Splenectomy for malarial infection, 1231—Gelatin treatment of aneurysm, 1299, 1369—Massage in constipation, 1299—Treatment of ptosis, 1359—Operations on the stomach, 1440
Glasgow Medico-Chirurgical Society.—Exhibition of cases, 1030, 1131, 1270
Glasgow Obstetrical and Gynæcological Society.—Election of officers, 1204—*Exhibition* of specimens, 1768
Harveian Society.—Congenital affection of the heart; Enlargement of the spleen; Pulmonary osteo-arthropathy, 1127—Malignant disease of the large bowel; Typhoid fever, 1265—Functional dysphagia, 1463, 1477—Harveian lectures, 1607, 1683, 1756
Hull Medical Society.—Election of officers, 1407
Hunterian *Society.—Increase of cancer*, 949—Exhibition of cases, 1269—Production of blood-plasma, 1698
Ilford Medical Society.—Formation of the society, 694—General meeting, 1289—The x rays, and how to obtain the best results, 1553
Incorporated Society of Medical Officers of *Health*.—Presidential address, 1063—Some points in public health administration, 1204—Cancer in relation to the dwelling, 1402
Kidderminster Medical Society.—Cæsarean section, 1553
Leamington Medical Society.—Intestinal cancer, 189
Leeds and West Riding Medico Chirurgical Society.—Temporo-sphenoidal abscess, 802—Cæsarean section; Sarcoma uteri; Exhibition of cases and specimens, 1205—Tetany; Enteric fever complicated with pregnancy; Pemphigus foliaceus, 1333—Tetany and gastric dilatation, 1392—Exhibition of specimens, 1479—Treatment of shock; Exhibition of cases and specimens, 1638
Leicester Medical Society.—Agoraphobia, 1322
Liverpool Medical Institution.—Some old authors and their books, 840—Reception, 1011—Immunity after excision of malignant disease; Pneumonia; Intussusception in young children, 1129—Exhibition of cases, 1267—Ringworm; Exhibition of specimens, 1134—*Treatment of tuberculosis*, 1403, 1537—The pathology of ovarian tumours; Exhibition of specimens, 1637—Sudden death from complete thrombosis of the basilar artery, 1707
Manchester Clinical Society.—Election of officers, 991—*The treatment of summer* diarrhœa in children, 1128—Exhibition of cases; Extra uterine pregnancy, 1404
Manchester Medical Society.—Clinical precision, 1079—Amputation for Charcot's joint disease, 1209—Renal tuberculosis; Tumour of the pons; Malignant jaundice; Development of movements of the hand in infancy, 1705
Manchester Pathological Society.—Exhibition of specimens, 1063—Exhibition of cases and specimens; Pathology of cancer, 1333
Manchester Therapeutical Society.—Annual general meeting, election of office-bearers, 107—Toxic effects of boric acid, 1403
Massachusetts Medical Society.—Epidemic cerebro-spinal meningitis, 851
Medical Society of London.—Lettsomian Lectures in 1899, 918—Annual meeting; President's address; Study of dyspepsia, 994—Abdominal section for external injury; Venesection in acute pneumonia, 1125—Exhibition of cases, 1327—Discussion on the value of pressure in the treatment of wounds, 1475—Transperitoneal ligature of the iliac arteries, 1631
Medico-Psychological Association of Great Britain and Ireland — Annual meeting; Presidential address, 233—Examinations for certificates, 667, 1318—Titles of various papers, 953
Midland Medical Society.—Jubilee dinner, 1006—Intestinal surgery, 1181—Exhibition of cases, 1337
Newport Medical Society.—Annual meeting, 1065—Exhibition of cases, 1407
North West London Clinical Society.—Dinner, 827
Northumberland and Durham Medical Society.—Exhibition of cases and specimens, 1061, 1406, 1706
Norwich Medico-Chirurgical Society.—Cardiac disease, 1177; jubilee, 1856
Nottingham Medico-Chirurgical Society—Varix, 573, 995—Pleural and pericardial adhesions, 995—Limitations in medicine, 1268—Vis medicatrix naturæ; Exhibition of specimens, 1405—Pseudo renal retinis, 1640
Obstetrical Society.—The sagittal fontanelle; Fronto-anterior positions of the head; Acute bedsore following parturition; Exhibition of specimens, 147—Puerperal septicæmia treated by anti streptococcic serum; Early ectopic gestation complicated by fibro-myoma of the uterus, 995—Tubo-abdominal and tubal pregnancy; Exhibition of specimens, 1264—Exhibition of specimens, 1633
Odontological Society of Great Britain.—President's address, 1020, 1270—Some old and new views of calcification of the teeth, 1639
Mr. G. R
Ophthalmological Society.—The Subconjunctival blood letting for hæmorrhagic retinitis; The mechanism of the conjugate movements *of the eye-balls*, *Large clear cyst of the conjunctiva*; Chancre of the lacrymal sac; Exhibition of specimens, 148—Glioma of the optic nerve, Tension of the eye in irido-cyclitis, 1126—The accommodation theories of Helmholtz and Tscherning, Myxo-fibroma of the optic nerve sheath, Toxic amblyopia due to lead, 1332—Exhibition of cases, 1634
Oxford Medical Society.—Exhibition of cases, 1130
Pathological Society.—Acromegaly, 193—Exhibition of specimens, 1059, 1201, 1329—Lesions of the pineal body, 1423, 1550—*Cysts in the ventricles of the brain*, Black water fever; Technique of blood films, Pernicious anæmia, 1704
Plymouth Medical Society.—Interstitial herniæ, 1635
Reading Pathological Society. — Transactions (review), 694
Royal Academy of *Medicine in Ireland.*—Irregular phrenic nerve; Muscular fibres of the œsophagus; Muscular fibres of the stomach; Dislocation of crystalline lenses, 26—Dissecting aneurysm, 799—Annual general meeting, *1091—Opening of the* session, 1293—Ligature of the left subclavian artery; Coxa vara, Exhibition of specimens, 1480—Tuberculous tabes; Abdominal section, 1705—Acute hæmorrhagic ascites; Medical folk lore, 1768
Royal Medical and Chirurgical Society.—Treatment of chronic Bright's disease, Rheumatic dilatation of the heart, 27; Closing of the library, 275—*Fibrinous or* membranous rhinitis and its relation to diphtheria, 1124—Congenital hypertrophic stenosis of the pylorus, 1264 — Hip joint disease; Exhibition of specimens, 1399—Treatment of separation of the lower *epiphysis of the femur*, 1633
Royal Medical Society of Edinburgh — Reception by the, 287
Sheffield Medico Chirurgical Society.—Vaccination and the Royal Commission on Vaccination, 1130—Exhibition of cases and specimens, 1267—Exhibition of cases, 1431
Society of Anæsthetists—Annual meeting, 1130—Transactions (review), 1273—Pure anæsthetics, 1401
South West London Medical Society.—Chronic discharges from the ear and their treatment, 1336
Torquay Medical Society.—Some clinical experiences, 465—Dinner, 843
Ulster *Medical Society.*—Annual meeting, *election of office-bearers*, 177—*President's* address, 1337—Annual dinner, 1510—Laryngeal diphtheria, 1551
University College (London) Medical Society.—The personal factor, 1008
Watford Medical Society.—The marriage of the unfit, 678
West Kent Medico Chirurgical Society.—Exhibition of cases, 1065—Morphia in cardiac disease, 1393—Chronic heart disease, 1535—Exhibits at the conversazione, 1553
West London Medico-Chirurgical Society.—Cavendish Lecture, 62—Annual general *meeting*, 205—*Life and work of a general* practitioner, 893, 995, 1104—Cases illustrating difficulties in the diagnosis of early tubal *pregnancy*, 1268—*Exhibition of cases*, 1552
West Penrith Medical Society.—Inaugural meeting, 1065
Wigan Medical Society.—Puerperal septicæmia, 750
York Medical Society.—Exercise and over-exercise, 1076

Medical—cases the Chesterfield Hospital and, 41, 61; Union, the Nottingham, 45; warrant, *army, the new*, 48; *Expert Aid Committee*, 62; advice, the giving of, by the clergy, 114; evidence, coroner and, 117, 907, 971; research, Mr. A. J. Balfour on, 163; charge allowance, 172; clearing house, 220; equipment, field, 226; secrecy, questions of, 331; ethics, 386; aspect of the American field forces, 416; graduate, female, the first recent, in Italy, 422; tariff of a friendly society, 434; congresses, addresses at, 435; control of medical charities, 571; history sheets for barracks, 577; teachers, 657; lectures, the Lane, 766; societies, the winter session *of the*, 943; *relief, the Charity Organisation* Society and, 1005, 1142; union in East London, 1013; London, 1286; affairs, *lay criticism of*, 1345; *witnesses, special* accommodation for, 1495; relief, lectures on, 1495, 1650; companies, the registration of, 1524; heroes, 1554; ordinance (1898) of the colony of Trinidad, 1594; examinations, unauthorised, 1599; folk-lore, 1768
Medical—Jurisprudence for India (review), 808; Temperance Review (review), 811; Diseases of Infancy and Childhood (review), 879; Terms, *Phonographic Outlines of* (review), 1133, Songs, Nine (review), 1642
Medical Act, amendment of the, the General Medical Council and, 214; Acts, police fines under the, 1593
Medical aid in American ships of war, 60; for the Khartoum expedition, 459; and the law, 1716
Medical *aid associations, the General Medical* Council and, 1007, 1595
Medical and surgical antiquities, 287; and State medical organisations within the profession, 290
Medical appointments and vacancies; university and collegiate, 233, 284, 348, 1374, 1673; hospital, infirmary, dispensary, asylum, and Poor law, 221, 236, 336, 458, 610, 623, 939, 1164, 1496, 1569, 1722; various, 168, 221, 275, 277, 284, 285, 334, 422, 437, 581, 705, 948, 1153
Medical appointments, Poor-law, 1160
Medical Association, Metropolitan Provident, annual report, 62
Medical Benevolent Fund (see British Medical, &c.)
Medical certificates, are two necessary for lunacy cases? 271; incorrect, 971
Medical charities, medical control of, 571; lectures on, 1019; the abuse of, 1217, 1294; *the Islington*, 1282
Medical charity, the abuse of, 216
Medical clubs, social, in Berlin, 105; in France, 350
Medical Corps, Army, the Royal, 48, 64, 92, 98, 171, 176 433, 576, 608, 705, 712, 898, 1274, 1413, 1431, 1731
Medical defence, the *British Medical Association* and, 228
Medical degrees and crime, 92; foreign, 334; the American Medical Association and, 723
Medical Department, the Army, report of the, 333; the American army, report of the, 1729
Medical Digest, 433, 1453
Medical Directory, the sectional arrangement of the, 787, 847, 907, 970, 1035; for 1899, 1806

Medical education, the Indian Medical Association and reform in, 903; a right, 923; and the modern university, 999; aspects of, 1758
Medical examining bodies, regulations of the, 596–612
Medical fees, action for the recovery of, 512; at coroners' inquests, assistants and, 1099, 1174; for life insurance examinations, 1160, 1228
Medical Graduates' College and Hospital (or Polyclinic), 159, 1507, 1646, 1736
Medical inspection of French soldiers proceeding on furlough, 278
Medical inspector of factories and workshops, 422, 459
Medical inspectors, new, of the Local Government Board, 499
Medical journalism in Maryland, 1743
Medical magistrate, charge against a, 237
Medical magistrates, 49, 304, 523, 584, 1237, 1746
Medical man acting as nurse, 96; alleged hypnotism of a patient by a, 215; libelling of a, in a newspaper, 336; prosecution of a, under the Lunacy Act, 345; assault on a, 458; complaint by a, against a coroner, 807; railway accident to a, 1745, 1819
Medical mayors, town councillors, and alderman, 176, 1290, 1301, 1650
Medical men, accidents to, 58, 705, 891; actions at law by, 94, 512, 1075; Widows and Orphans of, Society for the Relief of, 206, 1096; and undertakers, 241, 396; unfounded charges against, 332, 436, 843; and trade testimonials, 462; a warning to, 462; actions at law against, 462, 1721; in France, the earnings of, 496; insurance against sickness for, 583; insinuations against, 686, 783; some of the chief appointments held by, 595; criminal charges against, 91, 92, 227, 237, 725, 843, 1153, 1212, 1279, 1282, 1514, 1526, 1645, 1677, 1736, 1745; frauds on, 1080; alien, in France, the position of, 1590
Medical men, honours to, 107, 705, 834, 947, 1018, 1220, 1345, 1358, 1441, 1564, 1569, 1579, 1659, 1731, 1788, 1801; municipal honours to, 176, 1290, 1301, 1375
Medical men, presentations to (see PRESENTATIONS); eminent foreign, deaths of (see Deaths, &c.)
Medical missionaries, a college for, 41; missions, 420, 1600; Mission, the Oxford (in London), 1217, 1294
Medical officer, a Poor-law, unfounded charge against, 116; experiences of a, in Cuba, 419; a French, accompanies General Kitchener, 577; a naval, the Victoria Cross awarded to, 1564, 1579, 1659; of the Local Government Board, report of, 1644
Medical officer to the Salford school board, 233; of the *factory department*, 422, 459; of a friendly society, a coroner and a, 762
Medical officer of health and general practitioner, 526; post of, at Bingley, tenders invited for, 730; as a public teacher, 1053
Medical Officers, British Postal, Association of, 40
Medical officers, Poor-law, unfounded charges against, 116, 1363; Irish dispensary, superannuation of, 183; Poor-law, the Pershore guardians and their, 714; county, the position of, 1218; for schools in Berlin, 1370; for plague duty, 1423; hospital, inquest fees for, 1435; lady, the Chorlton guardians and, 1604
Medical officers, heroism of, 108, 221, 237, 1564, 1579, 1649, 1659; French naval, gallantry of, 778, 1564
Medical officers, school boards and their, 886, 1149
Medical officers of health, reports of, 168, 176, 283, 428, 503, 575, 710, 1011, 101[illegible], 1083, 1428, 1429
Medical officers of health, increase of s[illegible] of, 336, 967, 1075; and private practice, [illegible]; county, 1414
Medical officerships in the Highlands and Islands, 1099
Medical practice, a lay experiment in, 1714
Medical practitioners, irregular, 218, 238, 492; female, in Germany, 1370
Medical practitioners in Austria, 723
Medical practitioners and charity midwives, 1604
Medical prescription, fatal misreading of a, by a nurse, 1421
Medical prescriptions, the dispensing of, by druggists, 97; copyright in, 174, 1735
Medical profession, Lord Chief Justice on the, 139; the organisation of the, 837; and the State: their relationship, especially with regard to vaccinal legislation, 849, 884; the present status of the, 924; and massage establishments, 1073; friendly societies and the, 1141; municipal honours and the, 1290; and secret remedies, 1604; the public and the, 1688; its place, its prospects, and its rewards, 1760; benevolent agencies of the, 1799
Medical progress in the past quarter of a century, 243, 258
Medical progress, 851
Medical Protection and Medico-Ethical Society, East Suburban, 46, 116, 774, 837, 1013, 1322, 1411
Medical qualifications in France, 1590
Medical referees under the Workmen's Compensation Act, 64, 168, 277, 284, 285, 340, 348, 435, 574, 706, 836; a circular letter to the referees, 498
Medical reform in India, 1023
Medical reform (see also Corporate and Medical Reform Association)
Medical Register, British Columbia, 272
Medical school, the army, close of the session, 172, 340; opening of the session, 898
Medical schools: metropolitan, 612–623, 695; provincial, 623–630; in Scotland, 630–635, 651, 655; Irish, 635–637, 652, 657
Medical schools, metropolitan, awards of scholarships, prizes, &c., at the, 707
Medical schools, opening of the, 706, 950; annual dinners of the, 706, 890, 950; London and provincial, introductory addresses, &c., *delivered at the*, 915–932, 941, 948; *scholarships and prizes*, 939, 1096, 1302; new entries at the, 1077, 1155, 1212, 1720
Medical Schools and Graduates' Association, Irish, 339, 1078, 1220
Medical service *of* the army and the battle of the Atbara, 33
Medical service, the army, 182, 233
Medical service at the army manœuvres, 382
Medical Service, the Indian, 62, 182, 232, 577, 608, 705, 712, 834, 893
Medical service (Divine, at St. Paul's Cathedral), 891, 1082, 1293, 1506
Medical services, military, the Spanish, 53, 1798
Medical services, Army, Indian, naval, volunteers, militia, &c. (see also Services)
Medical staff corps, Manchester volunteer, inspection of, 111
Medical students, the Guild of St. Barnabas and, 889; the *Saturday Review* and, 1004, 1088
Medical students (see also Students)
Medical study, scholarships given in aid of, 638–649
Medical superintendents of lunatic asylums, retirements of, 116, 458, 853
Medical, Surgical, and Hygienic Exhibitors' Association, annual dinner, 1513
Medical Temperance Association (see British Medical, &c.)
Medical work, its value to the community and its inadequate pecuniary reward, 918
Medicamental [illegible]fusion, Electric (review), 211
Medicine, liquid [illegible]; *in relation to life* assurance, 373, [illegible]; *science and*, 699; popular, books on, [illegible]; the *kinematograph* in, 787; preventive, the progress of, 895; recent advances in science, *their bearing on*, 909; the profession of, personal character in, 912; prevention in, 920; fashion in, 926; the influence of character and right judgment in, 1037; and education in England, 1065; national, a plan and plea for, 1240; limitations in, 1268; the profession of, in 1899, 1607, 1683, 1755; in 1898, 1771; forensic, in 1898, 1779
Medicine, State, addresses in, 297; and party politics, 1070
Medicine, tropical, a proposed school of, 158, 227, 1224, 1346, 1416, 1448, 1495, 1496, 1499, 1560, 1574, 1579, 1654, 1660, 1722, 1736, 1805
Medicine, A System of (review), 149; lectures on, to Nurses (review), 151; Twentieth Century Practice of (review), 211, 1138; Practical, A System of (review), 263; State, Journal of (review), 268, 1133; *Practice of*, A Text-book of the (review), 226; Tropical Journal of (review), 556; The *Principles* and Practice of (review), 1272; Clinical, Contributions to (review), 1409; Experimental, Journal of (review), 1410; and Surgery, American Year-book of (review), 1483; and the Allied Sciences, Lexicon of (review), 1642
Medicine (see also British Institute, &c.)
Medicine bottles, advertised labels on, 846; bottle, a new, 1274; chest, Emin Pasha's, 1305; chests on shipboard, 1647
Medicines, dressings, &c., for the Spanish army, 53
Medico-Psychological Association (see Medical Societies)
Meikle, Mr. J., Life Assurance, 449
Melbourne: site for infectious diseases hospital, 180, 725; Austin Hospital for Incurables, 180, 612; St. Vincent's Hospital, 180; Benevolent Asylum, 725; water-supply, 824
Melbourne Hospital, new out-patient department, 180; financial position, 725
Melchior, Dr. M., electrolysis of sarcoma, 356
Memorials to: Jenner, 39; Sir W. Mackinnon, 336; Mr. J. Greig Smith, 348, 804, 946; Morgagni, 411; Principal Caird, 705, 720; Dr. Hans Wilhelm Meyer, 1154, 1220; Dr. Barry, 1420; Dr. Mabel Webb, 1493
Meno towels, 68
Meningitis, cerebral, case of, 204; cerebro-spinal, epidemic, 414, 854; infantile, with basal drainage, 1106
Menstruation, primary, in middle life, 323; regular, in a cretin, 1547
Mental Affections of Children (review), 265
Mercier, Dr. C., the plea of insanity, 443; sunstroke or delirium tremens, 835; dry-rot, 907; fires in lunatic asylums, 1815
Mercurial inunction, death after, 1422
Mercy and Truth (review), 811, 1411
Mesenteric artery, a ruptured, ligature of, 1077
"Messiah," his remedy for the plague, 906
Metabolism in the insane, the action of thyroid and parathyroid extracts upon, 363, 548
Meteorological Observations in the Straits Settlements (review), 486
Meteorological daily readings, 67, 121, 185, 241, 309, 387, 463, 527, 586, 731, 787, 847, 907, 971, 1034, 1099, 1175, 1241, 1305, 1379, 1453, 1529, 1605, 1679, 1749, 1820
Meteorological (see also Scottish Meteorological, Royal Meteorological)
Meteorology of Dublin, 534; of Buluwayo, 772; of Egypt and its Influence on Disease (review), 1205
Methylene blue in the urine, 1476
Metropolitan Asylums Board: annual report, 42, 427, 500; cost of the Brook Hospital, 183; expenditure, 219, 767, 1494, 1554; clinical instruction in the hospitals, 695
Metropolitan medical and ancillary schools, 612–623, 695
Metropolitan Provident Medical Association, annual report, 62
Metrorrhagia, *local application of steam in*, 820, 841
Mexican pelvis, 867
Meyer, Dr. Hans Wilhelm, monument to, 1154, 1220
Michelli, Mr. P., tropical medicine, 1650
Michigan State Board of Health, 350
Micro-organisms in disease of the cerebral and peripheral nervous system, 366
Microbe-proof house, 1240
Microscope, a pocket, 186
Microscope, Carpenter on the, 1056
Microscopical Science, Quarterly Journal of (review), 810
Microscopy, staining in (see Weigert-Pal, Van Ermengem)
Microscopy, Illustrated Annual of (review), 1066
Midden-privy and typhoid fever, 1120
Middle ear disease, life assurance and, 375; *inflammation*, 1337
Middle-ear disease (see also Otitis media)
Middlesbrough, the lesson of, 219
Middlesex Hospital, reopening of the, 784; introductory address, 923; scholarships and prizes, 939; opening of the session and dinner, 950
Middlesex Hospital Journal (review), 487, 1207
Midland Counties Home for Incurables, enlargement of, 110
Midwife, *a* defence of the, 1283, 1365; inversion of uterus caused by a, 1294
Midwifery, vaginal douches in, 387; antiseptics in, 1338
Midwifery, the *Practice* of, Economics, Anæsthetics, and Antiseptics in (review), 265; Science and *Practice* of (review), 937
Midwifery cases, metropolitan hospitals and, 463
Midwifery forceps, the use and abuse of the, 358; axis-traction, 1257, 1484
Midwives and the deaths of children, 1074; charity, *medical practitioners* and, 1604
Midwives Bill, 1523
Midwives' registration, 1448
Migrainator, 965
Miles, Mr. W., tumour mistaken for moveable kidney, 1553
Military hospitals, admissions to, 62; surgery, the x rays in, 218, 1500; officer charged with aiding in procuring abortion, 749, 1651; sanatoria, 1076
Milk, a new bacillus in, 96; and infantile mortality, 498; formaldehyde in, 675; asses', 586; bad, the dangers of, 733; of diseased cows, 943, 1174; infected, 953; the inspection of, in London, 1001; the composition of the, the growth of the infant and, 1004; the adulteration of, on Sunday, 1076; boric acid in, 1627
Milk-borne scarlet fever, 503
Milk supplies, the hygienic control of, 1289

Milk supply, tuberculosis and the, 733, 835, 883; typhoid fever due to, 840; the dirt of the farmer and its danger to the, 1680
Milk trade and diphtheria, 1219
Miller, Mr. F. N., a warning to medical men, 462
Milligan, John, life and times of, 1266
Milligan, Dr. W., laryngology, rhinology, and otology, 370, 628
Mills, Dr. C. K., Nervous System (review), 1205
Mills, Mr. H. W., peritonitis, 875
Milnes, Dr. G. H., cerebral tumour, 1473
Milroy, Dr. T. H., metabolism of nuclein, 453; pelagic ova, 454
Milton, Mr. H., Arabic Lectures on Surgery (review), 414
Mineral waters, various, 153, 154, 621, 938, 1203, 1426
Mineral Waters and Health Resorts of Europe (review), 1272
Mines, surgeons to, the pay of, 1718
Minter, Dr. E. D., obituary, 1677

MIRROR OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

ADDENBROOKE'S HOSPITAL, CAMBRIDGE.—Two cases of disease of the spinal cord following *pregnancy and labour (under the care of Dr. J. B. Bradbury)*, 324
ANCOATS HOSPITAL, MANCHESTER.—Two cases of ectopic pregnancy; recovery (under the care of Mr. Stanmore Bishop), 25—A case of Richter's hernia; sloughing of bowel; suture, recovery (under the care of Mr. Stanmore Bishop), 410—Case of irreducible hernia; adhesion of intestine, separation of mesentery; radical cure; recovery (under the care of Mr. Stanmore Bishop), 1650
BULAWAYO HOSPITAL.—A case of abscess of the liver; operation; recovery (under the care of Dr. Frank Arnold), 262
CUMBERLAND INFIRMARY.—A case of suppurative periostitis of the neck of the femur with acute pyæmia (under the care of Mr. Ledlard), 807
DERBYSHIRE ROYAL INFIRMARY.—A case of cerebral tumour; necropsy (under the care of Dr. G. H. Milnes), 1473
DEVON AND EXETER HOSPITAL.—Old traumatic dislocation of the hip; operation; recovery (under the care of Mr. Charles E. Bell), 1135
DORSET COUNTY HOSPITAL.—A case of hernia of the *appendix vermiformis*; operation; recovery (under the care of Mr. William Ernest Good), 877
EAST LONDON HOSPITAL FOR CHILDREN.—A case *of laryngeal stridor; removal of* adenoid vegetations (under the care of Dr. Eustace Smith), 552
GLASGOW WESTERN INFIRMARY.—A case of rupture of the patellar ligament; suture; recovery (under the care of Dr. D. Macartney), 754
GREAT NORTHERN CENTRAL HOSPITAL.—A case of gastro-jejunostomy in which the artificial opening was surrounded with a triple row of sutures and lined with mucous membrane (under the care of Mr. C. B. Lockwood), 701
GUY'S HOSPITAL.—A case of wound of the internal pudic artery, operation; recovery (under the care of Mr. C. H. Golding-Bird and Mr. L. A. Dunn), 84
HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.—A case of intussusception of the cæcum; reduction after laparotomy; recovery (under the care of Dr. F. G. Penrose and Mr. T. H. Kellock), 231—A case of hydatid cyst of the lung (under the care of Dr. F. G. Penrose and Mr. T. H. Kellock), 902
KING'S COLLEGE HOSPITAL.—A case of chronic glanders; recovery (under the care of Mr. William Rose), 876
LEEDS GENERAL INFIRMARY.—A case of intussusception; operation; recovery (under the care of Mr. W. H. Brown), 434—A case of perineal abscess; pyæmia treated with antistreptococcic serum; recovery (under the care of Mr. Lawford Knaggs), 753—A case of hæmophilia; oxygen inhalation; recovery (under the care of Mr. W. H. Brown), 1474—A case of obstructed labour; Porro's operation; recovery (under the care of Mr. Lawford Knaggs), 1703
LIVERPOOL ROYAL INFIRMARY.—Two cases of omental umbilical hernia attended by sloughing (under the care of Mr. Rushton Parker), 1398
LIVERPOOL ROYAL SOUTHERN HOSPITAL.—A case of acute intestinal obstruction; latent hernia; laparotomy; reduction of hernia from within; drainage; recovery (under the care of Dr. Alexander), 553
LONDON HOSPITAL.—Two cases of ovariotomy in which the bowel was torn; recovery (under the care of Dr. Lewers), 409—A case of bleeding fibroid in which arrest of the hæmorrhage and shrinking of the tumour followed ligature of the uterine arteries (under the care of Dr. G. E. Herman), 1058
LONDON LOCK HOSPITAL.—A case of acute pemphigus; recovery (under the care of Mr. Buxton Shillitoe), 1397
MIDDLESEX HOSPITAL.—A case of imperforate hymen; retained menses; hæmatocele; operation; recovery (under the care of Dr. Pasteur and Mr. Andrew Clark), 483
NEWCASTLE UPON TYNE ROYAL INFIRMARY.—A case of transperitoneal ligature of the external iliac artery for aneurysm of the common femoral; cure (under the care of Mr. F. Page), 146—Three cases of fæcal fistula treated by operation (under the care of Mr. Rutherford Morison), 691—A case of extra uterine fœtation; removal of a fully-developed child, the placenta being left; recovery (under the care of Mr. Frederick Page), 1123—A case of carbolic acid poisoning treated by venesection and injection of saline fluid; rapid recovery (under the care of Dr. T. Oliver), 1326
NORTH-EASTERN HOSPITAL FOR CHILDREN.—A case of porencephalus simulating a depressed fracture of the skull with a cephalhæmatoma; necropsy (under the care of Mr. H. P. Dean), 145—A case of indurative mediastino pericarditis in a young infant (under the care of Dr. J. H. Sequeira), 1765
ROYAL ALBERT HOSPITAL, DEVONPORT.—A case of dislocation of the knee (under the care of Mr. F. P. Row), 1630
ROYAL CORNWALL INFIRMARY.—Two cases of dislocation of the lens into the anterior chamber of the eye; removal (under the care of the late Dr. George F. Helm), 935
ROYAL FREE HOSPITAL.—A case of malignant pustule; death; necropsy (under the care of Mr. E. W. Roughton), 25—A case of extreme collapse treated on three occasions by the intravenous injection of saline solution (under the care of Mr. Boyce Barrow), 323—A case of compound fracture of the patella due to a kick from a horse; recovery with a moveable joint (under the care of Mr. W. H. Battle), 690—A case of acute membranous laryngitis in a child requiring tracheotomy and intubation; recovery (under the care of Dr. Sainsbury), 935—A case of extreme deformity of the lower extremities; operation (under the care of Mr. W. H. Battle), 1199
ST. GEORGE'S HOSPITAL.—A case of fracture of the trachea and sternum; necropsy (under the care of Mr. G. R. Turner), 1205
ST. MARY'S HOSPITAL.—Three cases of extensive venous thrombosis associated with severe rheumatic carditis, necropsies (under the care of Dr. W. B. Cheadle and Dr. D. B. Lees), 206
ST. MARY'S HOSPITAL FOR CHILDREN, PLAISTOW, E.—A case of pancreatic cyst treated by incision and drainage; recovery (under the care of Dr. Ernest B. Randall), 1702
ST. THOMAS'S HOSPITAL.—A case of glanders; *necropsy (under the care of Dr. Sharkey)*, 805—A case of ruptured intestine without abdominal wound, laparotomy, death nearly a month later (under the care of Mr. W. H. Battle), 1548
SALFORD ROYAL HOSPITAL.—A case of acute ileo-cæcal intussusception; laparotomy and reduction; necropsy (under the care of Mr. J. H. Ray), 1262
TEDDINGTON COTTAGE HOSPITAL.—A case of Cæsarean section; recovery (under the care of Mr. T. B. Luscombe), 993
UNIVERSITY COLLEGE HOSPITAL.—A[illegible] intussusception treated by la[illegible] rapid recovery (under the care o[illegible]man J. Godlee), 1262—A case of [illegible] in[illegible] ulceration of the scalp becom[illegible] [illegible]llomatous; treatment by scraping [illegible] the care of Mr. A. E. J. Barker), 1629
WESTMINSTER HOSPITAL.—A case of compound separation of the lower epiphysis of both radius and ulna, followed by acute tetanus, treated with tetanus antitoxin and irrigation of the wound with oxygen gas without relief (under the care of Mr. Charles Stonham), 1326
YORK COUNTY HOSPITAL.—A case of amenorrhœa for two years; small solid tumour in the left ovary; removal of tumour, return of menstruation; pregnancy (under the care of Mr. W. H. Jalland), 27—A case of complete rupture of the aorta presenting some extraordinary features; necropsy (under the care of Dr. E. Petch), 85

Mirror of Hospital Practice, retrospect, 1786
Mission, the Oxford medical in London, 1217, 1224
Missionaries, medical, a college for, 41
Missions, medical, 420
Mitchell, Dr. A. B., diphtheria, 1551
Moir, Capt. D. M., gunshot wounds, 1117, 1126
Mole, ruptured tubal, 1267
Molecular concentration of animal liquids, 452
Molloy, Dr. L., erysipelas, 63; fracture of the *tibia, 1193*
Monaghan and Cavan Asylum, 57
Money-lending, *quid pro quo* in, 271
Monium, 677, 695
Monkey, the cortex cerebri of the, 716
Monmouth, sewage disposal at, 203
Monsarrat, Mr. K. W., *Surgical Technics* (review), 1340
Monsters, 1453
Montano, Dr. Giovanni, Bacillus Gramineanum (review), 456
Montgomery, Mr. R., the qualification of L.A.H. Dublin, 1603
Montgomery, Dr. R. J., dislocation of lens, 87
Moor, Mr. C. G., Bacteriology (review), 556
Moor, Mr. S. A., Practical Plant Physiology (review), 264
Moore, *Dr. J. E., Orthopædic Surgery* (review), 1703
Moore, Dr. J. W., Ireland, its capital and scenery, 534, 674
Morals of soldiers, 816
Moretonhampstead convalescent home, opening of a new wing, 458
Morgagni, a statue and a bust of, 411
Morgan, Mr. G. B., presentation to, 331
Morice, Surg.-Gen. J. C., the late, 49
Morison, Dr. A. E., catgut, 1706
Morison, Dr. A., Cardiac Failure (review), 692; *the nervous system and disease in the* viscera, 1612, 1698, 1751
Morison, Mr. R., fæcal fistula, 691
Morocco (see Tangier)
Morphine (or Morphia), poisoning by, oxygen *in, 545; in Bright's disease, 1219; in cardiac* disease, 1392
Morris, Mr. H., Human Anatomy (review), 1483
Morris, Mr. M., Ringworm (review), 151; eczema, 519
Morris, Dr. R. A., belladonna poisoning, 689
Morris, Dr. S. G., whooping-cough, 1702
Morriston, the insanitary condition of, 1513
Morselli, Professor, suicide, 363
Mortality statistics, the Bertillon system of, 1568
Morton, Dr. A. S., negro children, 1605
Morton, Dr. T. H., dislocation of the shoulder, 439
Morton, Dr. W. J., Cataphoresis (review), 211
Mosquito in the evolution of the malarial parasite, 488; and drinking water, 1295; and malarial infection, 1461, 1541, 1565; and the malaria parasite, 1463
Mosquito bites, ipecacuanha for, 737
Mould, Mr., fails to find Mr. Jobling, 241, 386
Moullin, Mr. C. M., urinary fever, 631
Moxon, Mr. T. H., the late, 1095; obituary 1236
Mucous membrane, regeneration of the, 285
Muir, Dr. R., leucocytosis, 299
Muirhead, Dr. C., life assurance, 373
Mullick, Dr. Sarat K., contraction of the fore-arm, 983, plague in India, 1227
Mumps without inflammation of the salivary glands, 161
Munich M.D. in the coroner's court, 122
Municipal authorities and workpeople's dwellings, 632, 1174
Munk, *Dr. W., the late, 1722; obituary*, 1818
Munyon, Mr. J. M. (a vendor of homœopathic medicines), and his "consulting physician," 906; a practitioner assisting him removed from the *Register*, 1794
Murmur, vascular, 1327
Murphy, *Dr. H. H.*, sherry, 1226
Murray, *Dr. G. R., cases of aneurysm*, 1004
Murray, *Dr. H. M.*, the *Huxley* lecture, 290
Murray, Insp.-Gen. of Hospitals J., the late, 433
Murray, Mr. J. G., scarlet fever, 1251
Murray, *Dr. M., midwifery forceps, 358*; gonorrhœal infection, 1405
Murray, Mr. R. W., *harelip, cleft palate*, and club-foot, 371; intussusception, 1324; sacral *kidney, 1637*
Muscarine, poisoning by, 53
Muscle, histology of, 770
Muscles, experiments on, 715; *relaxation of, in* organic hemiplegia, 1007
Muscular dystrophies, 1348, 1639
Musculo-spiral paralysis, 439
Mushrooms, poisoning by, serum treatment of, 53; poisoning by, 795

Music, the rôle and ethics of, 42; in the Soudan, 787
Mustard, poisonous, 356
Muter, Mr. J., Analytical Chemistry (review), 1769
Mutton essence, 1485
Mycosis (see Pharyngo-mycosis)
Mydriatic, a new ("mydrin"), 24, 173
Myers, Dr. W., cobra poison, 23
Myers, Mr. F. W. H., hypnotism, 365
Myopathy, congenital, 1127
Myopia, high, removal of the transparent lens in, 518, 805, 898
Myositis ossificans, 1061
Myxœdema, thyroid extract in, 1202, 1553; and allied disorders, 1245; partial removal of the thyroid in, 1638

N

Nævoid tumour of the intestine in an intussusception, 1270
Nævus, operations for, 830
Nakashian, Dr. A. S., suppuration in a hernial sac, 1122
Nantwich, public vaccinators at, 1501
Naples Institute of Sero-therapy, 1075
Nares, diphtheria of, 322
Nasal obstruction and ear affections, 991; tablets, plasma, 1208; curettes, 1558
Nasal (see Ori-nasal)
Nash, Mr., specimens exhibited, 1868
Nasmyth, Dr., milk-supplies, 443
Nasse, Professor, the late, 768, 841
National Deposit Friendly Society, 434
National Health Society, 1806
Naturæ vis medicatrix, 1405
Natural History Museum, 334
Naturalist, Zig-zag Ramblings of a (review), 881
Nature. Flash Lights on (review), 1709
Naval Medical Supplemental Fund, 172, 1008
Naval medical service and Royal naval medical service (see Services naval and military, and Students' Number, page 611)
Naval pharmacies, 1647
Navy, the Japanese, health of the, 279; the United States, full diet table of the, 350
Navy, infectious diseases in the, 305; artificial limbs in the, 383; persons joining the, the teeth of, 1099
Navy List, Lean's, 172
Navy List Diary, the Royal. 1431
Ne sutor ultra crepidam, 586
Neal, Mr. J. B., acromegaly, 193
Neale, Dr. J. H., agoraphobia, 1322
Neale, Dr. R., the Medical Digest, 433, 1453
Negress, a stout, 1241
Negro children, the colour of, when born, 357, 1419, 1605, 1681
Negro (see also Coloured race)
Nelson, Dr. J., ophthalmia neonatorum, 1337
Neoplasms, sero-therapy in, 565
Nephrectomy, cases of, 75, 1479
Nephrectomy (see also Laparo-nephrectomy)
Nephrolithotomy, case of, 828
Nerve disorders in zymotic diseases, 420; cells, micro-chemistry of, 452; lesions in burns, 1216
Nerves on intracranial blood-vessels, 454; vagus and sympathetic, junction of the, in the cat, 716
Nervous system, the peripheral, disease of micro-organisms and toxins in, 366; diseases of the, lectures on, 947; the relation of the, to disease and disorder in the viscera, 1612, 1688, 1751; the influence of the, in heart disease, 1666
Nervous System, Diseases of the (review), 30; Diseases, Text-book of (review), 87; the Central, Methods of Staining (review), 1133; and its Diseases (review), 1205
Nescience, unchristian, 1000
Netley, the Royal Victoria Hospital, the Queen's visit to, 1563; as a school for tropical medicine, 1805
Nettleship, Mr., renal retinitis, 1634
Neufeld, Dr., released from captivity, 761
Neuralgia, the hot-air treatment of, 1385
Neuralgia, trigeminal, removal of the Gasserian ganglion for, 439; relapsing idiopathic, neurectomy for, 1553
Neuritis, tuberculous, 1335
Neurology, the Congress of, 582
Neuro-muscular spindles, 770
Neuroses of decadence, 298; cyclone, 1422
Neurotic sequelæ of fever, 97; woman, hyperpyrexia in a, 1331
Neve, Mr. A., chloroform in India, 357

NEW INVENTIONS.

Robinson's mene towels for ladies, 68—Patent automatic grip and splint, 68—An ori-nasal inhalation tube, 154—Combination surgical scissors and dressing forceps, 186—A new pattern of uterine replacer, 489—Wire suture case, 558—New aspirator, 695—A three-way cock for administering nitrous oxide gas and ether; for use with Clover's inhalers, 811—Improved aseptic hypodermic syringe and case, 811—A new catheter dish, 811—A modified uterine sound, 812—A new anæsthetic bottle, 812—An anatomical urethral bougie, 881—A surgical dressing table, 939—New urethral syringe, 998—New dressing tray, 998—Cutting forceps for use in the treatment of laryngeal phthisis, 1068—Metal A.O.E. inhaler with a simple means of varying the air-supply, 1208—Amputation retractor, 1209—Saw for removing plaster-of-Paris and other casings, 1274—A new medicine bottle, 1274—A combined tongue depressor and thermometer case, 1341—Hydrocele injection apparatus. 1341—An aseptic female catheter stand, 1341—An improved *form of axis-traction midwifery forceps*, 1484—A new pattern *of tourniquet*, 1484—Improved *Ormeby inhaler with attachments for the* administration of the A.O.E. *mixture* or chloroform, 1485—A *foot* roller, 1529—Improvement in crutches, 1558—Milne's ribbon gauze, 1558—Nasal curettes, 1558—A new parallel expanding rectal speculum, 1568—The "Perfect" hot appliance, 1643—Atmotherme steriliser, 1643—A blower for vaccine lymph tubes, 1680—A new form of warm dry air inhaler, 1711—"Instra" warmer, 1749—The "Association" vaccinator, 1770

New South Wales, Thirlmere Home for Consumptives, 180; leprosy, 1495
New Sydenham Society, Lexicon of Medicine and the Allied Sciences (review), 1642

NEW YORK, CORRESPONDENCE FROM.—Graduation in the dental department of the University of Pennsylvania, 59—Results of treatment of tuberculosis at Loomis Sanatorium, 60—Medical aid during action, 60—The navy full diet table, 350—Liquid air in medicine and surgery, 350—Michigan State Board of Health, 350—The maritime provinces of Canada as a summer health resort, 350—American sanitation of Havana, 350—The American Medical Association and the requirements for the degree in medicine, 723—The nursing bottle ordinance, 724—Precautions against yellow fever, 724—A steam-vessel equipped for disinfection, 724—The coloured race in life assurance, 902—The New York State Pathological Laboratory, 903—Medical Department of Cornell University, 903—The house-fly the carrier of typhoid germs, 1235—Yellow fever in the United States, 1235—Mortality among the Spanish soldiers returning to Spain, 1236—Organisation of the Army Medical Corps, 1513—Condemnation of Behring's patent, 1512—The dry-air treatment of tuberculosis, 1512—Statistics of crime in the United States, 1512

New York: heat of the weather, 240; hospital excursion ship, 763; yellow fever, 1351; bicycle race for six *days*, 1804
New Zealand, quartan ague in, 1548
Newcastle (Ireland) as a health resort, 57
Newman, Dr. D., hæmaturia, 14, 76, 129; septic infection of the urinary tract, 356
Newsholme, Dr., annual report for Brighton, 910
Newspaper editor, imprisonment of a, 336
Newth, Mr. G. S., Chemical Analysis (review), 692
Newton Abbott, new hospital for, 1600, 1678
Newt's stomach, the mucous membrane of the, 453
Neyman, Dr. E., Ophthalmological Therapeutics (review), 30
Nicholls, Mr. W. J., diphtheria antitoxin, 1732
Nicoll, Dr. J. H., uncommon cases of operation on the brain, 1114; case and specimens exhibited, 1270
[illegible] clana, 1034
[illegible] eirs on the, 235
N[illegible]mpaign (see Soudan campaign)
Nitrate of soda as a manure, 673
Nitre, sweet spirit of, 1350
Nitrogen, fixed, sources of, 672; manures containing, 672, 673; atmospheric, fixation of, by electricity, 674, 696; the excretion of, *after food*, 1314
Nitrous oxide anæsthesia during dental operations, 319
Nitrous oxide gas, the administration of, without a closed mask or valves, 933
Nitrous oxide gas and ether, a three-way cock for administering, 811
Nitrous oxide gas (see also Gas and Air)
Niven, Dr. J., tuberculous meat, 953; annual report for Manchester, 1429
Noises, street, 35, 946
Nordrach, the sanatorium for consumptives at, 1424
Norman, Mr. C., beri-beri, 377
North Devon Infirmary, annual meeting, 537
Northamptonshire, medical report for, 603
Nose, the accessory cavities of the, 482; a large, made smaller, 1092; repaired with rabbit bone, 1202; foreign bodies in the, 1718
Nose, &c., Diseases of the (review), 1067; and Throat, Diseases of the (review), 1769
Notifiable diseases, nomenclature of, 38, 1572
Notification anomaly, 888
Nottingham (city), annual medical report, 504
Nottingham Medical Union, 45
Novy, Dr. F. G., Laboratory Work in Physiological Chemistry (review), 808
Nuclein, metabolism of, 453
Nuel, Professor, absorption of aqueous humour, 301
Nurse, medical man acting as, 96; workhouse, the disappointments of a, 382; bitten by a rabid dog, 508; *fatal misreading of a prescription by a*, 1421; alleged illegal operation by a, 1680
Nursery, Health in the (review), 1642
Nurses, plague, in Calcutta, regulations for, 282, 702, 826; in India, 1295
Nurses censured by a coroner, 1148; bicycles for, 1301; lectures to, 1529
Nurses, Lectures on Medicine to (review), 151; Antiseptic Principles for (review), 1067
Nurses' Home in connexion with Queen Charlotte's Lying-in Hospital, 116; Coöperation, 727; Fund, Birkenhead and District, 1360
Nursing in workhouse infirmaries, 459, 496; in Castleblaney workhouse, 720; in Enniscorthy workhouse, 823; in Belfast workhouse, 840
Nursing, Obstetric, Handbook of (review), 69; District, on a Provident Basis (review), 152
Nursing, books on, 1379
Nursing the Sick Poor, Victorian Society for, 568
Nursing sisters, army, 64; Home, Royal Victoria Cottage, 236; institute, opening of a, 623; charities, the abuse of, 579, 780; Society, Bangor District, 720; bottle ordinance in Buffalo, 724

O

Oath, the Scotch form of, 35
Obesity, a soap for reducing, 266

OBITUARY.—Henry Case, M.R.C.S. Eng., L.S.A., 80—Henry Alford, F.R.C.S. Eng. (Hon.), L.S.A. Lond., 124—Duncan James Caddy, M.D. Durh., F.R.G.S., 235—Wm. Francis Adams, L.R.C.P. Lond., M.R.C.S. Eng., 350—William Savage Speer, M.D., M.Ch. R.U.I., 438—William Henry Ackland, M.D. St. And., M.R.C.S. Eng., L.S.A., J.P., 438—Fleet-Surgeon Charles Albert Macaulay, M.D., M.Ch.R.U.I., 438—William Pepper, M.D. Pennsylvania, 613—Kaikhosro Nasarvanji Bahadhurji, M.D. Lond., 583—T. F. I'Anson, M.D. Aberd., L.R.C.P. Lond., M.R.C.S., J.P., 583—George Roper, M.D. Aberd., M.R.C.P. Lond., M.R.C.S. Eng., 726—George Willis, M.D. Glasg., L.R.C.S. Edin., L.S.A., J.P., 842—Richard Ellis, F.R.C.S. Edin., 842—David Edgar Jones, M.D. Durh., F.R.C.S. Edin., L.R.C.P. Edin., J.P., 842—John T. Nicholson Lipscomb, M.D. St. And., F.R.C.S. Eng., 966—Maurice Davis, M.D. St. And., M.R.C.S. Eng., L.S.A., J.P., 1028—William Rutherford Ancrum, F.R.C.S. Eng., 1028—Dr. Jean Crocq, 1028—Thomas F. Moxon, M.R.C.S. Eng., L.S.A., 1236—Charles Vaughan Symmonds Bennett, M.R.C.S. Eng., L.S.A., J.P., 1236—Mabel Elizabeth Webb, M.B. Lond., 1236—William Campbell Maclean, C.B., LL.D., M.D. Edin., Surg.-Gen. I.M.S., 1361—Alexander Simpson, M.A. St. And., M.D., B.Sc. Edin., 1363—Edward Deane Macdermot, M.A., M.D. T.C.D., 1363—William Smith, M.R.C.S., J.P., 1442—W. E. Hacon, M.R.C.S., &c., 1442—Surgeon-General Alexander Smith, C.B., M.D., L.R.C.S., 1512—William Augustus Buchan, M.B., C.M. Edin., L.S.A., 1512—William Thomas Wyatt, M.A., M.D. Oxon., 1591—William Frederick Cleveland, M.D. St. And., 1591—Sir William Jenner, Bart., M.D., F.R.C.P. Lond., F.R.S., 1674—Ernest Denman Minter, M.B. Lond., M.R.C.S. Eng., R.N., 1676—Chales John Hare, M.D. Cantab., F.R.C.P. Lond., 1744—Charles Egerton Fitz-Gerald, M.D. St. And., M.R.C.S. Eng., 1745—Alfredo Antunes Kanthack, M.A. Cantab., M.D., F.R.C.P. Lond., F.R.C.S. Eng., 1817—William Munk, M.D. Leyden, F.R.C.P. Lond., 1818

Obituary, retrospect, 1802
Obstetric out-patient practice, 490; forceps, applying the blades of the, a protest, 804

Obstetric Nursing (review), 83. Diagnosis and Treatment, Anatomical Atlas of (review), 455; Cases, 2200, Observations on (review), 1066
Obstetrics, the teaching of, 295
Obstetrics in 1898, 1774
Obstetrics, A Manual of (review), 1206
Obstétrique, Exploration externe en (review), 455
O'Connor, Dr. J. F., rectal injection of the serums, 279; the Royal University of Ireland, 1435
Ocular Muscles, Tests and Studies of the (review), 878
Oculist's seal, Roman, 1216
Œdema neonatorum, 1406
Œsophageal bougie, dangers of the, 1466
Œsophago-enterostomy, 33
Œsophagotomy for swallowed toothplates, 295
Œsophagus, the muscular fibres of the, 80, removal of foreign bodies from the, 127, 223; hypertrophy of the, 1231, halfpenny in the, 1267; auscultation of the, 1465; sounding the, 1467; tumour of the, 1700
Ogilvie, Dr. T. W., presentation to, 1170
Ogle, Dr. C., tumour of the pineal body, 1550
Oil (see Petroleum)
Oldest subject of the Queen, death of the, 343
Oldham, ptomaine poisoning at, 509, medical report for, 1083, expectation of life in, 1083
Oldham, Mr. M., the late, 113
Olecranon, fracture of the, 862, 1552
Oliver, Mr. F. H., phosphorus necrosis, 1552
Oliver, Dr. J., inversion of the uterus, 1057
Oliver, Dr. T., diabetic coma, 401; caisson disease, 1064, carbolic acid poisoning, 1325
Omagh Infirmary, sale of the, 177
Omdurman, the victory at, 693, the camp near, 713; the sick and wounded at, 1593
Omental umbilical hernia, cases of, 1333
Omentum, the great, cyst of the, removal of, 1472, 1479
O'Neill, Dr. W., cycling, 1159
Open air treatment of phthisis, 291, 353, 1149, 1403, 1433, 1580, 1665, 1725
Operating theatres, modern, 291
Ophthalmia, infantile, the treatment of, 828; neonatorum, 1337, sympathetic, 1634
Ophthalmic Surgery and Medicine, Manual of (review), 1065
Ophthalmological Therapeutics (review), 30
Ophthalmology, recent advances in, 301; x rays in, 372, 5.6, holocaine in, 516, in 1893, 1777
Optic nerve, glioma of the, 1156; thalami functions of the, 1217, sheath, myxo-fibroma of the, 1332
Optical and other instruments, exhibition of, 934; diplomas, 1214; examinations of the Spectaclemakers Company and the British Optical Association, 1349, 1431
Opium, poisoning by, 111, 232
Orbit, arterio-venous aneurysm of the, 495, myxo-sarcoma of the, 1635
Orbital (see Infra-orbital)
Orbits, both, cellulitis of, 1192
Orchitis, typhoid, 1143
Ord, Dr. W. H., myxœdema, 1213
O'Regan, Mr. B., vitality, 1087
Orexin tannate, 257
Organism, The Living (review), 1132
Ori-nasal inhalation tube, 154
Orthopædic Surgery, Brief Essays in (review), 1479
Orthopædic Surgery (review), 1708
Osborn, Mr. S., first aid, 1021
Osler, Dr. W., Principles and Practice of Medicine (review), 1272
Osteomalacia, case of, 1267
Ostiere, Mr. R., glossitis, 1269
Otitis media, suppuration due to, 1237
Otological congress in 1899, 890
Otology, experimental research and clinical experience in, 269, 508
Out-patient practice, obstetric, 490
Ova, pelagic, chemical changes in, 454
Ovarian tumour, solid, removal of, followed by pregnancy, 27; tumours, the pathology of, 1537
Ovarian cyst, apparent rupture of, 1130; labour obstructed by, 1263, a large, 1335
Ovariotomy, cases of, 259, 263, 823, followed by parotitis, 1268
Ovariotomy in which the bowel was torn, 409
Ovary, the conservative surgery of the, 442, 638, cystic, ectopic pregnancy simulated by, 1333, dermoid tumours of the, 1634
Overcoats, zinc salts in, 1470
Overend, Dr. W., meningitis, 1106
Overlaying, 309
Ovo, 1207
Owen, Mr. E., gastro-jejunostomy, 1327; hip-joint disease, 1399
Owens, Mr. L. M., presentation to, 1513, 1665
Owens College, Manchester, opening of a library, 111
Oxalic acid, poisoning by, 875
Oxford Medical Mission (in London), indiscriminate admission to the, 1217, 1294
Oxford University, pass lists, 118, 1745
Oxygen at a high tension, the effects of breathing, 358; in poisoning by morphine, 645; in diabetic coma, 830, irrigation of a wound with, 1326; inhalation in hæmophilia, 1474, wounds and ulcers treated by, 1545
Oysters, 1528, 1604

P

Pachydermia, case of, 321
Page, Mr. F., ligature of external iliac artery, 146, extra-uterine fœtation, 1125, arterio-venous aneurysm, 1706
Page, Mr. H. W., obstruction by band, 80; epispadias, 1194; ankylosis of the lower jaw, 1202, tetanus, 1432
Paget, Dr. O. F., typho-malaria, 409
Paisley, the medical officer of health of, 1593
Pakes, Mr. W. C. C., blackwater fever, 1704
Palate, cleft, the treatment of, 371
Palate, the soft, sarcoma of, 651, tuberculous perforation of, 1423
Palmer, Mr. J. F., the spread of disease, 1131, 1367
Pancreatic calculi, 1632; cyst, incision and drainage of, 1702
Pancreatitis, acute, 1632, 1633
Papier-maché casts, 318
Papine, 1208
Paraffin sections of microscopic objects, the staining of, 321
Paraffin (see also Petroleum)
Paragraphist, the tender mercies of the, 1453
Paralysis, pseudo-bulbar, in a child, 42, post-diphtheritic, 357, musculo-spiral, 433, of accommodation after influenza, 517, Landry's, 6.6, facial, congenital, 704, infantile, a method of restoring the functions of the muscles in, 1190; general, of the insane, its average duration, 1256, agitans, a new symptom of, 1253, 1434, pseudo-hypertrophic, 1285
Paraplegia, family, spastic, 1495
Parathyroid, accessory, 1060
Parathyroid extract, the action of, 303, 546

PARIS, CORRESPONDENCE FROM. — Serum therapeutics in mushroom poisoning, 58—Retention of the placenta in abortion, 58—The Dental School of Paris, 58—The bacteriological laboratory of the prefecture of the Seine, 58—Glycosuria in wet nurses following the administration of somatose, 58—obituary, 58, 1093, 1232, 1671—Prophylaxis of tuberculosis, 113—Antistreptococcic serum from the erysipelas streptococcus, 113—Curability of fœtal ichthyosis, 113—Observations at the execution of Carrara, 113—Toxicity of sweat, 113—Treatment of strabismus, 178—Creasote in pulmonary phthisis, 178—Operative treatment of cancer of the rectum, 178—Treatment of lead colic by injections of artificial serum, 178—Congress of Alienists and Neurologists, 178—Biological Institute in the rue Dutot, 178—The spermatozoon of goitre, 234—The treatment of lupus by injections of calomel, 234—The action of liquid air upon monocellular organisms, 234—Erysipelas brought on by inoculation with pus from a streptococcic empyema, 234—Removal of the superior cervical ganglion for acute glaucoma, 234—Notification of infectious diseases, 285—Pathology of caseous pneumonia, 285—Regeneration of the mucous membrane, 285—The artichoke as a culture medium in microbiology, 285—Influence of tuberculin on cultures of Koch's bacillus, 285—Rabies, 285, 841—The International Congress on Tuberculosis, 349—Medical clubs, 350—Suprapubic cystotomy in enlarged prostate, 437—The Nantes Congress, 438—Avian and human tuberculosis, 681—The Congress of Neurology, 682—Transmission of toxins from the fœtus to the mother, 682—Pulmonary streptococcus infection, 721—Agglutination in tuberculous serum, 721—Radiography and the physiology of the heart, 721—Vaccination in France, 721—Changes in the viscera produced by the seventy-two hours' bicycle ride, 783—Medical treatment of epilepsy, 783—A quasi Laporte case, 783—Bone grafting, 840—The heat wave, 840—The fire at the Central Pharmacy, 841—Diagnosis of a bullet in the subhyoid region by means of the x rays, 901—Treatment of gonorrhœa, 902—Meeting at the Bicêtre Hospital, 902—The cinematograph, 902—An ingenious quack, 902—Dr. Lucas Championnière on the case of the Prince of Wales, 902, 1300—Agglutination of Koch's bacillus by human serum, 963—Hospital abuse in Paris, 964—Medical aid in theatres, 964—Congress of Gynæcology, Obstetrics, and Pediatrics at Marseilles, 1025—The Pasteur Institute, 1025—The oil motor tricycle for medical men, 1025—Increase in the number of French specialists, 1025—Training of the Corps de Santé, 1025—The admission of well-to-do patients to hospitals, 1026—The French Surgical Congress, 1091, 1169—Attempted suicide of Dr. Boisleux, 1091—Treatment of aortic aneurysm by injections of gelatin, 1092, 1299, 1369—Congress of urology, 1169—The library of the Faculty of Medicine, 1169—Orthopædic Institute of Lille, 1169—The accounts of the Assistance Publique, 1169—Peritoneal immunity to certain operative infections, 1231—Splenectomy for malarial infection, 1231—Meeting of the French Medical Associations, 1231—Patriotic fête at the Charité Hospital, 1232—Dr. Calmette, 1232—Constipation relieved by massage of the hepatic region, 1299—Surgical treatment of adherent pericardium, 1299—Medical aid and the army, 1300—Dr. Boisleux and Dr. La Jarrige, 1300—Treatment of ptosis, 1369—Treatment of cracks in the nipples, 1369—The toxicity of appendicitis, 1369—Matriculation fees in the universities, 1370—Operations for disease of the stomach, 1440—The Medical Congress of 1900, 1440—Hysterical gastralgia, 1441—Treatment of tuberculosis, 1510—The fungus parasite of cancer, 1510—New hospital buildings, 1511—The late Dr. Grubi, 1511—Serum treatment of tetanus, 1590—Unveiling of the Charcot monument, 1590—Medical qualifications in France and the position of the alien medical men, 1590—Oxygenated water in surgery, 1671—Thyro-iodine in delayed union of fractures, 1671—Statistics of medical students, 1671—Medical man prosecuted by a confrère, 1742—A medical trial, 1743—The Hôpital St. Louis, 1743—Mushroom juice as an antitoxin against serpent venom, 1743—Fat in the horny layer of the skin, 1743

Paris, the sewers of, rate of flow in, 37; the antitoxin treatment of diphtheria in, 1457
Parisian eating houses, the kitchens of, 1359
Park, Dr. R., Treatise on Surgery (review), 1270
Parker, Mr. R., umbilical hernia, 1393
Parkes, Dr. Louis, annual report for Chelsea, 710
Parks, the public, 93, 186

PARLIAMENTARY INTELLIGENCE.—Poisons Bill, 62, 116, 182—Indian Medical Service, 62, 182—Admissions to military hospitals, 62—The water question, 63, 64—Dangers of ice-creams, 63—Preparation of calf lymph, 63, 459—Venereal disease in Hong Kong, 63—Post-mortem examinations, 63—Hospital stoppages in the army, 63—Adenoid disease in the Hanwell schools, 64—Cost of hospital treatment in the army, 64—Royal Army Medical Corps, 64—Army nursing sisters, 64—Vaccination prosecutions in Scotland, 64, 383, 459—Vaccination Bill, 64, 116, 117, 182, 238, 305, 332, 460—Phosphorus in matches, 116, 237, 382—Work in bakehouses, 117—Eastbourne Convalescent Hospital, 117—Vaccination defaulters, 117—Rabies, 117, 382—Coroner and medical evidence, 117—Experiments on living animals, 117, 183, 305, 382—Herbert Hospital at Woolwich, 117—Habitual Inebriates Bill, 182, 238—Pharmacy Acts Amendment Bill, 182, 305—Army medical service, 182, 238, 382—The bullets for the Soudan, 182—Asylum accommodation for epileptics in London, 182, 238—River pollution in East London, 183—Vaccination questions, 183, 306, 382—Cost of the Brook Hospital, 183—Unsound or diseased foreign meat, 183, 305—Manchester prison case, 183—Venereal disease in the army in India, 183, 624—The superannuation of Irish medical officers, 183—The General Medical Council and unqualified assistants, 237, 306—Lead poisoning in the Potteries, 237, 382—Tuberculosis, 237, 305, 459—Gallant conduct of Surg.-Lieut. Hugo, 237—The hospital at Aden, 237—Prosecutions for illegal operation, 237—The case of Dr. Lynch of Walsall, 237—The Physic Garden at Chelsea, 238—The General Medical Council and irregular practice, 238—Factory prosecutions, 305—Dysentery in Upper Egypt, 305—The cantonment rules, 305—Treatment of infectious disease in the Navy, 305—Food products adulteration, 305, 382—Mischievous advertisements, 305—Woolsorters' disease in Bradford, 382—Accommodation for pauper lunatics in Devon, 383—Hospital accommodation at Malta, 383—Report of the Army Medical Department, 383—Artificial limbs in the navy, 383—Nursing in workhouse infirmaries, 459—The medical officer of the factory department, 459—Water-supply of

Deal, 459—Medical aid for the Khartoum expedition, 459—Metropolitan hospitals and midwifery cases, 460—Close of the session, 524—The plague in India, 524—Bacteriological investigation in India, 524—The preparation of tuberculin, 524

Parotitis after ovariotomy, 1268
Parrots, infective pneumonia caught from, 1591
Parry, Dr. L. A., gastro-intestinal hæmorrhage, 144
Parry, Mr. R. H., torticollis, 439
Parry, Dr. T. W., diabetes, 1394, 1665
Parsons, Dr. H. F., sanitary progress, 1400
Parsons, Dr. J. I., fibro-myoma of the uterus, 196
Partnership, what constitutes a? 1098
Parturition, persistence of hymen at, 1261
Pass Lists: Royal College of Surgeons of England, 61, 528, 1094, 1448, 1818; Cambridge University, 61, 1170, 1818; Examining Board in England by the Royal Colleges of Physicians and Surgeons, 115, 180, 583, 1094, 1374; Oxford University, 115, 1745; Glasgow University, 115, 1094; Royal College of Physicians of Ireland, 115, 181, 1600; Society of Apothecaries of London, 180, 304, 584, 903, 1029, 1170, 1449; Royal College of Surgeons in Ireland, 181, 1600; Aberdeen University, 304; Army Medical School, 340; London University, 380, 1449, 1526; Victoria University, 380; Royal Colleges of Physicians and Surgeons of Edinburgh and Faculty of Physicians and Surgeons of Glasgow, 381; Brussels University, 381; Edinburgh University, 457, 1236; Apothecaries' Hall of Ireland, 458, 1301; Royal Army Medical Corps, 576, 898; Indian medical service, 576, 898; Faculty of Physicians and Surgeons of Glasgow, 112, 782; Durham University, 784, 843, 903, 1029; Royal University of Ireland, 1094; Conjoint examinations by the Royal College of Physicians of Ireland and the Royal College of Surgeons in Ireland, 1301
Pasteur, Dr., imperforate hymen, 483
Pasteur Institute for Hyderabad, 1585, 1741
Pasteur (see also Institut Pasteur)
Patella, fracture of the, 221, 273, 480, 562, 690, 860, 889, 902; dislocation of the, 862, 1127
Patellæ, multiple, 1329
Patellar ligament, rupture of the, 754
Pathological Museum of the British Medical Association, 377, 454
Pathological Anatomy, Atlas and Essentials of (review), 879
Pathology, General, A Manual of (review), 31; Comparative and Therapeutic, Journal of (review), 1340; and Bacteriology, Journal of (review), 1410
Paton, Dr. Noel, zymin action, 453
Paul, Mr. F. T., ligature of the iliac arteries, 228; immunity after excision of malignant disease, 1129
Paul, Dr. M. E., pulex irritans, 730
Paulin, Mr. D., medical fees for life insurance, 1160
Pauper, only a, 151, 279
Pauper attendants in workhouse infirmaries, 1565
Pavy, Dr. F. W., diabetes, 1505
Pearls, epithelial, in the tonsils, 1201
Pearmain, Mr. T. H., Bacteriology (review), 556
Pearse, Mr. J. H., aresnic in wool, 107
Pearson, Mr. A. C., auscultatory friction, 551
Pearson, Mr. A. E., enteric fever, 1334
Pearson, Mr. E., antiseptics in midwifery, 1338
Peck, Mr. E. G., presentation to, 304
Peck, Surg. W. G., the late, 432
Peculiar People, prosecutions of, 41, 587; a conviction, 1651, 1716
Pelagic ova, chemical changes in, 454
Pellagra in Transylvania, 164; in Egypt, 377
Pelvic cellulitis in the male, 206; inflammation, the surgical treatment of, 357; surgery, combined abdominal and vaginal section in, 1635
Pelvis, the Mexican, 887; contraction of the, delivery of the after-coming head in, 1174
Pemphigus serpiginosus, 139; foliaceus, 1334
Pemphigus, outbreak of, 575; acute, case of, 1397
Pen, stylographic, 1749
Penis, incarceration of the, 240, 308, 387, 906; papilloma of the, 1335; fibro-myoma of the, 1337
Penmanship, typewriting *versus*, 1173
Pennsylvania University, dental education in, 59; *Society for the Prevention of Tuberculosis*, 1649
Penrose, Dr. C. B., Diseases of Women (review), 412
Penrose, Dr. F. G., intussusception, 261; hydatid cyst of the lung, 992
Pension, good service, award of, 49
Pepper, the adulteration of alcoholic liquids with, 495
Pepper, Dr. W., obituary, 513
Peptonate of iron, 938
Peptone, the influence of, on the kidney, 453
Percussion of the vertebral spines, 23
Pericardial and pleural adhesion, 1109
Pericarditis (see Mediastino-pericarditis)
Perineal abscess, 753
Peritoneal cavity, the lesser, cleansing, 1736, 1815
Peritoneum, broth injected into the, 82
Peritonitis, septic, case of, 875
Perityphlitis, and its Varieties (review), 1206
Perkins, Dr. G. S., ringworm, 1058
Pernet, Mr. G., skin diseases, 527; ringworm, 868
Persecution for reticence, 1075
Pershore guardians and their medical officers, 714
Personality, double, 1377
Petch, Dr. R., rupture of the aorta, 85
Peters, Mr. G. A., plaster modelling, 378, 500
Petridis, Dr. A. P., La Dysenterie et l'Abcès du Foie d'Egypte (review), 1408
Petrifaction of human bodies, 511
Petroleum, the Select Committee on, report of, 36, 162, 333, 423; cargo of, explosion of, 1078
Petroleum lamp, a dangerous, 93
Phalanges, dislocation of the, 1174
Phalline, poisoning by, 63
Pharmaceutical Society of Great Britain, school of the, introductory address, 929
Pharmaceutical Formulas (review), 152
Pharmaceutical (see also British Pharmaceutical)
Pharmacology and synthesis, 417
Pharmacies, naval, 1647
Pharmacology at Cambridge University, 567
Pharmacopœia (see British Pharmacopœia and Extra Pharmacopœia)
Pharmacy, fire at a, 841
Pharmacy, Elements of (review), 755
Pharmacy Acts, amendment of the, 162, 305; prosecutions under the, 587, 1737; misunderstood by a coroner, 761
Pharyngo-mycosis, 1285, 1432
Pharynx, &c., Diseases of the (review), 1067
Phelps, Lieut.-Gen. A., the indexes to the report of the Royal Commission on Vaccination, 267, 345
Phenyl-hydrazine hydrochloride a test for phosphorus, 564, 715; eczema produced by, 1481
Philips, Mr. A. E., angina Ludovici, 408
Phillips, Dr. S., chyluria, 1202; typhoid fever, 1265
Phlebitis, syphilitic, 1003
Phonographic Record (review), 153, 487, 811, 1274, 1643; Outlines of Medical Terms (review), 1133
Phosphatine, Fallières, 938
Phosphorus in the match trade, 116, 237, 276, 331, 382, 657, 825; a micro-chemical test for, 564, 715
Phosphorus necrosis, a curious case of, 1417; a case of, 1552
Phosphotal, 267
Photographic effects produced by bacteria, 1079
Phrenic nerve, irregular, 86
Phthisical patients, hospital or homes, or sanatoria for, 511, 1374
Phthisis, pulmonary, creasote in, 178; the open-air treatment of, 294, 353; the prevention and treatment of, 769; laryngeal, forceps for the treatment of, 1068; of the apex, the surgical treatment of, 1318; peculiar cardiac physical signs in, 1323, 1548, 1816; compulsory notification of, 1411
Physic Garden, Chelsea, 216, 238, 342
Physical education for men and women, 1687
Physical laboratory, a national, 947
Physiologie (review), 486; Archives de (review), 1134
Physiology, congress of, 715
Physiology in 1898, 1781
Physiology, Journal of (review), 212; Experimental and Descriptive (review), 1133; Manual of (review), 1339; Text-book of (review), 1481
Pick, Mr. T. P., union of wounds, 1531
Pickersgill, Mr. E. P., presentation to, 1375
Pickett, Dr. J., an appeal, 122, 1174
Pig, filaria strongylus in the, 442
Pin in the rectum for thirty years, 690
Pinard, Professor A., De l'Exploration externe en Obstétrique (review), 485; Symphyséotomie (review), 694
Pineal body, various lesions of the, 1550
Pious confidence, 187
Pipeclay and glycerine casts, 378
Piperidine as a uric acid solvent, 198, 534, 433, 607; in gout, 280
Pitt, Dr. N., hyperpyrexia, 1331; pancreatitis, 1633
Pitts, Mr. B., ligature of iliac arteries, 1631
Placenta, retention of the, in abortion, 58
Plague, serum treatment of, 55; in rats, 65, 1165; the spread of, 377; measures for dispelling, 451; pathology of, 451; prophylactic inoculation for, 445 508, 717, 900, 961, 1023, 1069, 1437, 1552; in pregnant women, 748; and malaria, antagonism between, 508; a "revealed cure" for, 908; the Indian Government and the, 1069; death of a medical officer from, 1166; serum *versus* vaccine in, 1419
Plague in India, 55, 126, 175, 232, 282, 435, 450, 451, 508, 524, 580, 717, 781, 821, 838, 843, 888, 900, 944, 961, 1005, 1013, 1023, 1165, 1171, 1204, 1220, 1227, 1295, 1366, 1385, 1437, 1507, 1586, 1666, 1740; Commission on, 1277, 1375, 1437, 1496, 1507, 1586, 1601, 1740, 1806
Plague on board the *Carthage*, 272; decline of, in Hong-Kong, 423, 499; in East Africa, 721; in Calcutta, 728; in Sind, 821; in Vienna, 1090, 1143, 1149, 1165, 1225, 1233; in Samarcand, 1220, 1385; in Bombay, 1288; in Central Asia, 1385; on board the *Caledonia*, 1569; in Malegaon, 1821; on board the *Golconda*, 1806
Plague, Reports on (review), 825
Plague Research Committee, the Bombay, report of the, 418; commission, the Austrian, 1719
Plague pneumonia, case of, 418; nursing, the joys of, 702, 836; bacillus, the discovery of, 451; duty, medical officer for, 1423
Plaistow, the Maternity Charity and District Nurses' Home at, 579, 780, 837
Plaistow Maternity Charity, 714, 779, 834, 836
Plant Physiology, *Practical* (review), 264
Plantar reflex, a pathological, 765
Plantigrade animals, fractures and dislocations in, 559
Plasma nasal tablets, 1208
Plaster modelling, 378, 500
Plaster-of-Paris casings, saw for removing, 1274
Playfair, Lord, confused with Dr. W. S. Playfair by a French newspaper, 586
Playfair, Dr. D. T., poisoning by morphine, 545
Playfair, Dr. J., life assurance, 375
Playfair, Dr. W. S., dinner to (see also Lord Playfair), 103; Science and *Practice of Midwifery* (review), 937
Pleural and pericardial adhesion, 1109
"Pleurisy, typhoid," 1568
Pleuritic exudation, spirilla in, 842
Pleximetric bones and viscera, 23
Plumbers, Master, the London Society of, 38
Plumbers, the Association for the National Registration of, 567; the registration of, 727, 904; the technical education of, 1095; the Company of, annual banquet, 1806
Plumstead, medical report for, 1083; medical examination of school children at, objected to by the School Board, 1083
Plymouth: annual medical report, 710; a complaint against the infectious hospital, 811; water-supply, 858: Hospital Sunday, 1526
Pneumococcic infection, generalised, in pneumonia, 1721
Pneumococcus, infection by the, pathology of, 1045; staining the, 1262
Pneumonia, caseous, pathology of, 285; in Buenos Ayres, 316; double lobar, complicating influenza and mania, 801; and the Naples Institute of Sero-therapy, 1075; acute, venesection in, 1125; infective, caught from parrots, 1591
Pneumonia (see also Ether-pneumonia)
Poisoning by strychnine, 52, 823; by mushrooms, 68, 796; by opium, 111, 232; by lead, 255, 1473; by ptomaine, 509, 889, 1122, 1821; by morphine, 545; by chlorodyne, 658; by belladonna, 689; by atropine, 761; by potted shrimps, 781, 819; by oxalic acid, 875; by cloves, 957; by atriplex, 1078; by carbolic acid, 1326; by water gas, 1333, 1368; by ammonia gas, 1558; by sulphonal, 1638; by cannabis indica, 1701; by cocaine, 1819; by sewer air, 1722; by bromoform, 1816
Poisonous Substances Bill, 62, 93, 116, 164, 182
Poisons, the labelling of, 761; and poison legislation, 929
Police fines under the Medical Acts, 1598
Politics, party, State medicine and, 1070
Pollack, Dr. Bernhard, Methods of Staining (review), 1133
Pollard, Mr. A. J., presentation to, 1678
Polyclinic (see Medical Graduates)
Poor, large families among the, 1557
Poor-law Conference, South-western, 350; medical appointments, 1160
Poore, Dr. G. V., sawdust urinals, 714
Pope, the health of the, 511; the body-physician of the, 729
Pope, Mr. H. R., life insurance, 1223
Poplar, medical report in, 429
Population, estimates of, 50, 362
Populations of the great towns in England 362

Porencephalus, 145
Porritt, Dr. N., surgical treatment of phthisis, 1318
Porro's operation, 1703
Port Phillip (Australia), medical inspection of vessels at, 512
Porter, Dr. C., bacteriology, 1021, midden-privy and typhoid fever, 1120
Porter, Professor T., experiments on the heart, 715
Portsmouth, meeting of the British Medical Association in 1899, 287, 291; sanitary administration, 832
Post, the transmission of deleterious matter by, 495
Post Office, health at the, 1077
Postal Medical Officers, British, Association of, 40
Post-diphtheritic paralysis, 367, 1203
Post graduate instruction abroad, 593; courses, 667; course, the London, 667, 839, 1736; classes in *Glasgow University*, 782
Post-mortem examination, legality of a, 63
Post-partum hæmorrhage treated by saline injection, 1528
Potato salad, enteric fever spread by a, 1241
Potter, Dr. F., various cases exhibited, 1357
Potteries, lead poisoning in the, 257, 382
Pottery rules, the new, 1146
Potts, Mr. L., presentation to, 1449
Powder puffing, 1035, 1099
Power, Miss Lucy, accidental drowning of, 335
Poynton, Dr. F. J., rheumatic dilatation of the heart, 29
Practice (see Private practice, Club practice, Medical practice)
Practitioner (see Unqualified practitioner, *Unregistered practitioner*, German Medical Practitioners, Irregular practitioner, General practitioner, Country practitioner, English-speaking practitioner, Registered practitioner)
Practitioner (review), 1274, 1643
Preceptors, College of, 1864
Pregnancy after removal of ovarian tumour, 27; simulating pedunculated fibroid, 322; first, in middle life, 323; disease of the spinal cord following, 324; and life assurance, 375; myomata of the uterus complicating, 802; complicating enteric fever, 1334
Pregnancy, ectopic, cases of, 25; tubo-abdominal and tubal, 1224, 1258; extra-uterine, of twelve years' duration, 1404
Pregnant women, plague in, 743
Pregnant women, should they work? 818
Prescriptions (see Medical prescriptions).

PRESENTATIONS AND TESTIMONIALS.—To Mr. H. E. Rayner, 62; to Mr A. T. Wooldridge, 62; to Dr. E. Ryan, 62; to Dr. W. G. Armstrong, 62; to Dr C. N. Thomas, 62; to Mr. A. A. Bowlby, 115; to Dr. W. J. Collins, 275; to Mr. D. M. Forbes, 285, to Mr. E. G. Peck, 304; to Mr. G. S. R. Stritch, 304; to Mr. T. Thompson, 305, to Dr. Gray, 305, to Mr. J. Burns, 305, 1742, to Mr. J. T. Gardner, 331; to Mr G B Morgan, 331; to Mr. F. B. J. Baldwin, 381; to Mr. J. Stothard, 381; to Mr. S Macaulay, 382; to Mr. C. F. France, 382; to Dr. B. J. Adam, 382; to Mr. P. B. Stoney, 382; to Mr J. J. M'Grath, 453; to Mr F. W. Lewis, 437; to Mr. J. Cameron, 437; to Dr E Goodall, 437; to Dr. D. Collingwood, 584; to Mr R. W. Roberts, 727; to Mr G. H. Ward-Humphreys, 784; to Dr J. Brunton, 843; to Mr. G. W. H French, 843, to Dr. R. Main, 843, to Dr. G. Wilson, 904; to Mr. R. Wade, 904, to Mr. J. Tucker, 904, to Dr. W. Gray, 967; to Dr. F. J. Waring, 1031; to Dr. W. Taylor, 1031, to Dr. A. B Lyon, 1031; to Surg.-L. B. James, 1170; to Mr W. G. Grace, 1170; to Dr. T. W. Ogilvie, 1170; to Dr. W. E. St. L. Finny, 1170, to Mr A. Lewers, 1237; to Dr. T. H. Champ, 1237; to Dr. G. E. Rennie, 1237; to Dr. and Mrs. Duguid, 1237, to Dr. T. J. Vallance, 1301; to Mr. J. R James, 1301; to Mr E Reid, 1301; to Mr E. P. Pickersgill, 1375, to Mr. J. Todd, 1375, to Mr L. Potts, 1449, to Dr. J. H. Brown, 1449; to Dr. D C Black, 1450; to Dr. H. T. Sylvester, 1494, to Dr. J. B. Russell, 1509, 1588; to Mr E M. Owens, 1513, 1665; to Mr. J Steele, 1678, to Dr. H. C. Major, 1678, 1746, to Mr. A. J Pollard, 1678; *to Mr. and Mrs R. Cross*, 1678; to Mr. G R. Swinhoe, 1678; to Dr A. E. Carruthers, 1678; *to Mr. A. N Davis*, 1746; to Dr. W. J. Howarth, 1746

Press, the, and water analysis, 820
Press bazaar, 45
Pressure in the treatment of wounds, 1475
Preston and County of Lancaster Royal Infirmary, 1285
Prichard, Mr. Augustin, the late, 727
Prisons, Irish, the report upon, 863
Prisons Bill, 33
Pritchard, Mr. A., the Plaistow Maternity Charity, 714
Privat docent, the status and functions of the, 1421
Private practice, the disillusions and disabilities of, 1063; medical officers of health and, 1350; diphtheria antitoxin in, 1544, 1664, 1732, 1816
Privies and enteric fever, 674, 1120
Profession (see Medical profession)
Professional confidence, 1719; altruism, 1756
Prosecution (or Prosecutions) of unqualified practitioners, 39, 177; of Peculiar People, 41, 627, 1651, 1716; vaccination, 64, 333, 459, for selling or possessing diseased or unsound meat, 69, 719, 1148; of an unregistered practitioner for manslaughter, 91, 93 2.7, 237, by inspectors of factories, 305; of a newspaper editor by a medical man, 336, of a medical man under the Lunacy Act, 315; under the Factory Act, 436; for selling weak lime-water, 458; under the Infant Life Protection Act, 581; under the Pharmacy Acts, 587, 1737; of the junior staff of the Glasgow Royal Infirmary, 720; of unregistered dentists, 727, 766; for selling milk containing boric acid, 1027, for blackmailing, 1720
Prostate, enlarged, cystotomy in, 431
Proteid molecule, 715
Protene preparations, 1207
Protoplasm and zymin action, 453
Provident dispensaries, 572, 1127; system and its problems, 1736
Prussia, Rhenish, battle of the clubs in, 1093
Pryce, Mr. T. D., limitations in medicine, 1268
Pseudo-bulbar paralysis with diplegia in a child, 42
Pseudo-hypertrophic paralysis, 1285
Pseudo-renal retinitis, 1810
Psittacosis, 1591
Psorospermosis, case of, 1703
Psychical research, the position of, 677
Psychoses of decadence, 298; cyclone 1422
Ptomaine poisoning, 509, 889, 1122, 1821
Public and the profession, 1628
Public Health, Royal Institute of, congress of, 177, 216, 234, 423, 437, 610, 529, 534, 573, 631, 823; Harben lectures, 1229
Public health, diplomas in, instruction for, 619, 1525; the fee for the registration of, 1365
Public health executive, 291; administration, 1204; *questions in* 1898, 1793
Public Health Act and enteric fever, 826
Public Health Act, a point under the, 1366
Publicity, unfortunate, 186, 241, 309
Pudenda, ulcerating granuloma of the, 95, 1019, 1068
Pudic artery, internal wound of the, 84
Puerperal fever, disinfection of an accoucheur after, 123, in Huddersfield, 503, etiology of, 1421; *the sources of*, 1731
Puerperal septicæmia, anti streptococcic serum in, 82, 750, 995; subnormal temperature in, 83; a case of, 1053; diseases, infectious, notification of, 1572
Puerperium complicated with scarlet fever, 1200
Pugilist, death of a, 1345
Pulex irritans, 730
Pulmonary phthisis, creasote in, 178, the prevention and treatment of, 769
Pulmonary cavities, incision and drainage of, 334; streptococcus infection, 721
Pulse counting, the history of, 1034
Punishment, corporal, in schools, 95
Punishment, corporal, the adjustment of, 944
Pupil teachers, vaccination of, 382
Purpura of childhood, 1567
Pustule, malignant, case of, 25
Pyæmia due to alveolar abscess, 552, anti-streptococcic serum in, 753, 808, 1056
Pyæmia, lateral sinus, 449
Pye-Smith, Mr., displacement of hip, 1267, intestinal obstruction, 1431
Pylorus, cancer of the, 856; congenital hypertrophic stenosis of the, 1264; inoperable *disease of the*, 1327; resection of the, 1335

Q

Quack, an ingenious, 952
Quackery, 1604
Quackery in Cape Colony, 1175
Quacks, 39; and abortion, 1570, 1651, 1723, 1800, 1807; *rival*, 1805
Qualified assistants, the alleged dearth of, 53, 108, 155, 175, 223, 230 345, 434, 564
Quartan ague in New Zealand, 1548
Queen, the coronation of the, anniversary of, 42; the reported carriage accident to the, 947
Queen's speech, vaccination and the, 495, visit to Netley, 1563
Queensland, lead poisoning in, 512
"Questionable shape," 1003
Quinine amblyopia, 764
Quinlan, Mr. F. J. B., the Royal University of Ireland, 1505

R

Rabagliati, Dr., feeding, 1478
Rabbit, the peritoneal cavity of a, fœtuses in, 148
Rabbit, femur of a, nose repaired with, 1202; ulna restored with, 1332
Rabies, diminution of, 117, prevalence of, in *Egypt, and native remedies for*, 235; *the* bacillus of, 763
Rabies in France, 265, in London, 332, in Paris, 841; in Brazil, 1006, in India, 1205
Rabies (see also Anti rabic)
Rack rent, improvement expenses and, 445, 522
Radial (see Heart radial)
Radiation, Electro-magnetic, &c., An Elementary Treatise on (review), 1483
Radiographie et de Radioscopie, Traité de (review), 1710
Radius, lower epiphysis of the, compound separation of the, 1325
Raggi di Röntgen e loro Pratiche Applicazioni (review), 1079
Raglan Castle, the preservation *of*, 458
Railway trains, wrecking of, 68, 756, carriages, overcrowding in, 375, train, a man struck by lightning on a, 1304; train, hospital, 1470
Railways, underground electric, the ventilation of, 1001, 1145
Rain making 915
Rainy, Dr., muscular dystrophy, 1633
Ramsay, Professor A. M., Atlas of External *Diseases of the Eye (review)*, 1407
Ramsay, Mr H. M., pyæmia, 1056
Ramsay, Professor W., pure anæsthetics, 1401
Randall, Dr. E. B., pancreatic cyst, 1702
Ransom, Dr. W. B., vis medicatrix naturæ, 1405
Ransom, Dr. W. H., tuberculosis, 1580
Ransome, Mr. G. H., Nine Medical Songs (review), 1642
Rape cases, spermatozoa from stains in, 1335
Rats, the destruction of, in plague-infected localities, 1166
Ravenhill, Alice, Sanitary Law (review), 938
Raw, Dr Nathan, anti streptococcic serum, 81; tuberculosis, 194, 1403; trephining for epilepsy, 1129
Rawal Pindi, native hospital at, gunshot wounds at, 1117, 1186
Rawdon, Dr. H. G., enterectomy, 296
Ray, Mr. J. H., intussusception, 1262
Rayner, *Dr. H., medical relief*, 1495, mental condition in childhood, 1651
Rayner, Mr. H. E., presentation to, 62
Reading, anti vaccinationists at, 1494
Recorder and the superintendent, 1299, 1349
Recruiting, 49
Rectal injection of the serums, 279, 433; speculum, 1558
Rectum, cancer of the, treatment of, 173; pin in the, 690; an instrument for the application of heat and cold to the, 1305; sarcoma of the, 1329, removal of the, 1553, 1637
Red Cross Society and the Soudan campaign, 39, 1217; in Cuba, 605; the American and the Spaniards, 507, and the Nile campaign, 897
Redruth, enteric fever in, 47
Rees, Dr J H., pelvic cellulitis, 206
Reflex, plantar, a pathological, 765
Refuse, Town, The Removal and Disposal of (review), 693
Regina v. Collins, 91, 92, 227, 237, 1279; v. Whitmarsh, 1153, 1212, 1279, 1514, 1526; v. Wallace, 1645 1736
Registered practitioners of England and Wales, report to the, 1575
Reichardt, Dr., the case of, 345, 526
Reid, Mr. E., presentation to, 1301
Reid, Professor W., intestinal absorption, 452
Reinhardt, Dr. C., village water-supplies, 899
Relief, medical, lectures on, 1495, 1650
Relief maps, 162, 637
Renal affections with blood *in the urine, the* diagnosis of, 14, 78, 129; *diseases*, chronic, the treatment of, 389; retinitis, 1634
Renal Growths (review), 755
Renal (see also *Pseudo renal*)
Rennie, Dr. G. E., presentation to, 1237
Renton, Dr. J. C., sciatica, 433
Repudiation, 731
Residence, *change of*, manner of announcing, 787
Resorcin, untoward results from, 779, 8
Respiration, artificial, dangers in, 5
Respiratory Tract, the Upper, D
(review), 1067
Responsible or Irresponsible?
Mentally Diseased? (review)
[illegible], prosecution for,

Retinitis, hæmorrhagic, subconjunctival bloodletting in, 148; renal, 1634; pseudo-renal, 1640
Retractor, amputation, 1209
"Return" cases of scarlet fever, 1216
Revaccination (see Vaccination)

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PERIODICALS —Phonographic Record 153 487, 1134, 1274, 1643—Journal of Physiology, 212—Tabib el Aila, 266—Annales de l'Institut Pasteur, 266—Journal of State Medicine, 264, 1135—Journal of the Sanitary Institute, 416—*Middlesex Hospital Journal*, 487, 1207—Journal of Tropical Medicine, 556—Janus Archives Internationales pour l'Histoire de la Médecine &c, 633—Annales de Gynécologie et d'Obstétrique, 810—Revue de Gynécologie et de Chirurgie Abdominale, 810, 1207—Quarterly Journal of Microscopical Science, 810—Journal of Anatomy and Physiology, 810, 1134—Medical Temperance Review, 811—Liverpool Medico Chirurgical Journal, 811 — Mercy and Truth, 811, 1411—Archives de *Physiologie* 1134—*Dublin* Journal of Medical Science, 134 1134, 1710—Scottish Medical and Surgical Journal, 1134 1341 1710—Caledonian Medical Journal 1134—Edinburgh Medical Journal 1134, 1341—Student, 1134—Practitioner, 1274, 1643—Journal of Comparative Pathology and Therapeutics 1340—Echo du Bien, 1341—Journal of Experimental Medicine 1410—Birmingham Medical Review, 1410—Journal of Pathology and Bacteriology, 1410—Revista Medica de *S Paulo*, 1411—*Cornhill Magazine*, 1483—British Journal of Dermatology 1710—Archiv für Dermatologie und Syphilis, 1710—Manchester Royal Infirmary Students' Gazette, 1710—Diaries, 1710

Reviews (see also Student's library)
Revista Medica de S Paulo (review), 1411
Revolver, knife, and fist, 1604
Reynolds, Mr. F, Pocket Guide to the British Pharmacopœia (review) 32
Rheumatic dilatation of the heart, 23, 29, carditis cases of, 206, heart disease in childhood, 371, affections, 1639
Rheumatism, heart disease due to, chronic forms of, treatment of, 1536
Rheumatism in children, subsequent to chorea, 1195
Rheumatism, the hot air treatment of, 1385
Rheumatoid Arthritis (review), 880
Rhinitis, fibrinous or membranous, and its relation to diphtheria, 1124 1128
Rhinology, experimental *research and clinical* experience in, 309
Rhodesia, malaria in, 772, 798
Rhodes's Steamship Guide (review), 485
Rice, beri beri and, 577
Rice, Dr W R, provident dispensaries, 572, dislocation of finger, 1174
Richards, Dr D T, fractures, 743
Richards Mr J B O, genu recurvatum, 205
Richet, Mons Charles, Physiologie (review), 486
Richmond, Mr C E, *Antiseptic Principles* for Nurses (review), 1067
Ricin, 71
Rickets, multiple fractures in 1638
Rideal, Mr S, Practical Organic Chemistry (review), 165, Disinfection and Disinfectants (review), 1769
Rinderpest in South Africa, 1189
Ringworm, 130 cases of, 868 the treatment of, 934, 1068, varieties of, 1334
Ringworm fungi, 520
Ringworm in the Light of Recent Research (review) 151
Ritchie Dr J, life assurance, 375
River pollution, 183 953, 10 5
Rivers, the pollution of, and its prevention 390, legislation relative to, 445
Road making 1565
Roberts, Mr R W, presentation to, 727
Robertson, Dr Aitchison, tonsillar calculus 1335
Robertson, Mr Alexander, arsenic in wool, 227
Robertson Dr. Argyll, advances in ophthalmology, 301
Robertson Dr J, soil and the spread of disease, 444
Robinson, Dr A, vaccination, 1130
Robinson, Mr B, cyst of the mamma, 1060
Robinson Dr W tuberculosis, 158
Robson, Mr. A W M, halfpennies in the œsophagus, 137, hepatectomy 298, sterilising catgut, 874, tetany, 1333, 1392

Roche, Professor A, epilepsy, 988, cannabis indica, 1701
Roding, the river, pollution of, 1075
Roe, Dr, insular sclerosis, 1130
Roe, Dr. T. O'Neill, diabetes mellitus, 1734

RÖNTGEN RAYS —Halfpennies in the œsophagus located by the rays (Mr. A M Robson), 137—The rays in military surgery (Professor Küttner), 218—Removal of a bullet from the body of the axis after its localisation by skiagraphy (Dr F Bird), 273—The rays in ophthalmology (Mr. M Davidson and Mr E T. Collins), 302, 516—Exhibition of medical, surgical, and anatomical skiagrams at Edinburgh, 378, 455 658 — Sir William Crookes on the rays, 675—Observations on the thoracic organs by means of the rays (Mons. Bouchard), 721—Diagnosis of a bullet in the subhyoid region by means of the rays, 901—The rays in diseases of the chest (Dr. H. Walsham), 928—*The rays in Italy*, 1079—Presentation of ray apparatus to a hospital, 1117—The rays in lupus (Mr. C T Holland, Dr. S. Taylor), 1129—Proposal to paint a fluorescent screen on the skin (Mr H. A. Kent), 1241—Radiographs of osteomalacia (Mr R Jones), 1267—The rays on the battle-field (Major W. C Beevor), 1423, 1500—Adjustment of the photographic plate by means of the fluorescent screen (Mr. F J. Drought), 1553—Exhibition at a conversazione, 1553—*Skiagraphs of multiple* fractures in rickets, 1638—The rays in lupus, 1743

Roentgen and Cathode Rays an Elementary Treatise on Radiation and (review), 1483
Roentgen rays (see also Raggi di Röntgen, Radiographie)
Roentgen Society, nomination of president, 1030, first annual meeting election of officers, 1269, conversazione, 1286 1502
Rogers, Dr W. G, *pneumococcus infection*, 1645
Rogers, Dr œdema neonatorum, 1408
Rogerson, Dr C, conscientious objection, 960
Rolleston, Dr, hypertrophy of the œsophagus, 1401
Roman hospital found near Zürich, 526, oculist's seal, 1216

ROME, CORRESPONDENCE FROM —The cadaver humanum: its preservation, 511—The Pope's health, 511—*Professor Koch's study* of malaria, 582, 722—The University of Cambridge and Professor Golgi, 723—The heat, 723—"Contro il coltello," 783—The tragedy of the Quai Mont Blanc, 783—Oysters and sewage contamination 965—Tardy honours to a medical worthy, 965—Killed by lightning, 966—A gynæcological tour, 966—The medico-military officer in Africa 966—Recrudescence of typhoid fever, 1093—The influence of flowers on the human organism, 1093—Death of a great surgeon, 1170—"Down with duelling," 1233—Two brigades of artillery poisoned, 1233—The English-speaking practitioner in Italy, 1233 1672—Death of the "father of seismology," 1300—Malaria studies, 1300—Mosquitoes and malaria, 1371—Vaccination 1441—Honour to a medical man, 1441—Italian precautions against pestis bubonica, 1691, 1672—Recrudescence of psittacosis, 1591—The excessive cold, 1743—Tuberculosis of the thoracic duct, 1743

Rome, Professor Koch in, 582; the Medical Academy of, election of a corresponding member, 1286, investigations at, on malaria, 1565
Roper, Dr G, fronto-anterior positions of the fœtal head, 143, his death, 600, obituary, 726
Roper, Mr H J, temporo-sphenoidal abscess, 802
Rose Dr J, a medical infirmary for Chesterfield, 41, 51
Rose, Professor W, A Manual of Surgery (review), 87, recovery from glanders, 876
Rosenheim, Mr Otto, piperidine, 198 345, 433
Ross, Surg Maj Ronald the mosquito and the malarial parasite, 483
Rossi (see De Rossi)
Rot (see Dry rot, Barkoo-rot)
Rotheroe, Mr W B, advertising, 1098
Rothesay, meeting of the Sanitary Association of Scotland at, 782
Rothschild, Baron Ferdinand de, the late, 1722
Roughton, Mr E W, malignant pustule, 25, ligature of a mesenteric artery, 1077
Routh, Dr A, cystocele, 440
Rovsing, Dr, hæmorrhage from the kidney, 439
Row, Mr F E, dislocation of the knee, 1630
Rowe, Dr. J. H, vitality, 1020, 1223

Roxburgh, Dr. R., private practice, 1063
Royal Aquarium, 756
Royal Army Medical Corps, 48, 64, 92, 98, 171, 176, 433, 576, 608, 705, 712, 893, 1274, 1413, 1431, 1731
Royal College of Physicians of Edinburgh, reception and conversazione given to the British Medical Association, 287, 351, 352; Morison lectures, 1220, 1612, 1688, 1751
Royal College of Physicians of Ireland, pass lists, 115, 1600; honorary Fellowships, 574, 581; admission of a Member, 1031; election of officers, 1095; admission of a Fellow, 1301
Royal College of Physicians of Ireland and Royal College of Surgeons in Ireland, conjoint examinations by the, 57, 1597; pass list, 1301
Royal College of Physicians of London: Croonian lecture, 1, 71; ordinary Comitia, 342, 1224; presentation of a portrait, Physic Garden at Chelsea, London University Commission Bill, Vaccination Bill, arrow poison, appointment of officers, examiners, and lecturers, 342; Harveian oration, 947, 1037, 1571; Bradshaw lecture, 947, 1243, 1571; nomination of various committees, the proposed school of tropical medicine, 1224; extraordinary comitia, 1571; Chelsea Physic Garden, Leprosy Committee, notification of infectious puerperal diseases, 1572; the College and "trade," 1666; restrospect, 1797
Royal College of Surgeons of England: the coming election to the Council, 51; pass-lists, 61, 523, 1094, 1448, 1818; election of members of the Council, 114, 158, 224; election of president, 182, 224; the claim of Members and Fellows to choose the College representative on the General Medical Council, 213, 506; quarterly meetings of Council, 224, 1068; appointment of professors and lecturers, additions to the museum, 224; F.R.C.S. or F.R.C.S. Eng.?, 308; ordinary meeting of Council, 342, 1373, 1655; the Vaccination Acts, 342; the calendar, 1011; number of Members and Fellows, finance, 1011, 1012; preparation of antitoxic serum, 1012, 1068; grant from the Goldsmiths' Company, 1068; friendly societies, 1868; Bradshaw lecture, 1068, 1531, 1655; International Otological Congress, 1068; a gown for Members, 1068, 1374, 1489, 1583, 1655, 1656; reform, 1276; annual meeting of Fellows and Members, 1286, 1373, 1435, 1488, 1655; dental surgery, the new Pharmacopœia, erasure of names from the Medical Register, the General Medical Council, 1655; retrospect, 1798
Royal College of Surgeons of Edinburgh, reception given to the British Medical Association, 287, 351; and the army medical service, 1274, 1413; reception, 1438
Royal College of Surgeons in Ireland, prize lists, 115, 1030; honorary diplomas, 574; election of professor of midwifery, 1374; pass list, 1600
Royal Colleges of Physicians and Surgeons, Examining Board in England by the, pass lists, 115, 180, 583, 1094, 1374
Royal Colleges of Physicians and Surgeons of Edinburgh and Faculty of Physicians and Surgeons of Glasgow, pass list, 381
Royal Commission on the metropolitan water-supply, 43, 100, 165, 222, 275, 337, 1278, 1286, 1352, 1426, 1496, 1572, 1653, 1809; on vaccination, 212, 267, 345, 822; on tuberculosis 237, 459; on sewage disposal, 946, 1219
Royal Cornwall Infirmary, annual report, 556
Royal Eye Hospital, Southwark, festival dinner, 46
Royal Free Hospital Medical School, introductory address, 926
Royal Institute of Public Health, congress of the, 177, 216, 284, 423, 437, 510, 529, 534, 573, 681, 823; Harben lectures, 1220, 1288, 1411, 1489
Royal Institution, 1601
Royal Irish Academy, 57
Royal Masonic Institution for Girls, 899
Royal Medical Benevolent College, Epsom, 220, 279, 1073, 1085
Royal Meteorological Society, anemometers, 1375; change of address, 1676
Royal military tournament, 107
Royal Navy List Diary, 1431
Royal Society, annual dinner, 1496
Royal South Hants Infirmary, proposed new wing, 314
Royal University of Ireland, honours and exhibitions at the, 349; pass list, 1095; the diploma in sanitary science of the, 1294, 1435, 1505
Royal Veterinary College, introductory lecture, 827, 932
Royal Victoria Cottage Nursing Home, 236
Royal Victoria Hospital (see Belfast and Netley)
Russell, Dr. A. E., cyst of the pineal body, 1551
Russell, Surg.-Capt. A. W. F., the late, 107
Russell, Dr. J. B. (Glasgow), appointed medical member of the Local Government Board for Scotland, 946; dinner to, 1609; presentations to, 1509, 1658
Russell, Dr J. R., appendicitis, 934
Russell, Dr. J. S. R., anæmia and degenerations of the spinal cord, 4
Russell, Mr. R. H., fracture of the femur, 125
Russell, Dr. W., tumour of the brain, 1633
Russia, plague in, 1220
Russian schools, the prohibition of corsets in, 1098
Rutherford, Dr. W., tone sensation, 389, 451; bile secretion, 453
Ryan, Dr. E., presentation to, 62

S

Sacral kidney, 1637
Sacro-iliac disease, a case of, 875
Sacrum, the promontory of the, the position of, 30
Sagittal fontanelle at birth, 147
Sainsbury, Dr., laryngitis, 935
St. Andrews, excursion of the British Medical Association to, 111
St. Andrews University: Dundee University College, 112; appointments, 284
St. Andrew's Ambulance Association, 112
St. Barnabas, the Guild of, 889
St. Bartholomew's Hospital, opening of the session and dinner, 951; the Abernethian Society, 1030
St. George the Martyr, Southwark, the church of, human remains in, 38
St. George's Hospital Medical School, introductory address, 918; annual dinner, 951; distribution of prizes, 1154, 1238
St. John of Jerusalem, the Order of, 1148, 1801, 1819
St. Helena, Napoleon's medical attendant at, 713
St. Helens: prosecution under the Factory Act, 436; notification of measles, 890
St. Luke, the Guild of, 891, 1082, 1293, 1506
St. Martin's Vestry and the notification of measles, 1493
St. Mary's Hospital, donation to found a gold medal, 275; introductory address, 920; scholarships, 939; annual dinner, 951
St. Olave's, Southwark, medical report, 428
St. Pancras, medical report for, 1014
St. Paul's Cathedral, Divine service for medical men in, 891, 1082, 1293, 1506
St. Thomas's Hospital, scholarships and prizes, 928, 939; annual dinner, 951
Salford school board, medical officer to the, 233
Salicylate of sodium, the administration of, delirium following, 1492
Saline irrigation in abdominal operations, 1707
Saline solution, intravenous injection of, in collapse, 323; in diabetic coma, 401; in carbolic-acid poisoning, 1326; in shock, 1390, 1566
Saline solution, rectal injection of, in post-partum hæmorrhage, 1628
Saline treatment of dysentery, 62
Salivary glands, mumps without inflammation of the, 161; digestion of starch, 823
Sambon, Dr., blackwater fever, 376
Samoans, palpation of the kidney in, 565
Samuel, Dr. J. A., diphtheria antitoxin, 1732
Sanarelli, Dr. Giuseppe, offered a chair in Bologna University, 1352
Sanatoria, military, 1076
Sandwith, Dr. F. M., sea-sickness, 308; pellagra, 377; dysentery, 377
Sanitary inspectors, lectures and demonstrations for, 826, 918; progress and institutions of Japan, 893; appliances, exhibitions of, 455, 896; Law, Elements of (review), 933; science, the progress of, 953; progress, female health visitors as aids to, 1005; progress and its results, 1400
Sanitary Association, the Church, 228; of Scotland, annual meeting, 782
Sanitary Inspectors Association, North-Western and Midland, conference of the, 111; Western Branch, annual meeting, 336
Sanitary Inspectors Association of Scotland, annual meeting, 57
Sanitary Institute: congress at Birmingham, 41, 667, 703, 849, 895, 952, 960; Journal of the (review), 414; lectures and demonstrations, 826, 1095; lectures on children, 1153
Sanitary Science, Handbook of (review), 1555
Sanitation vindicated, 37; the Pasha of Damascus on, 187; a clergyman on, 1450; special articles and investigations on, 1796
Sanitation of Domestic Buildings (review), 1482
Sankey, Mr., apparent rupture of an ovarian cyst, 1130
Sanose, 378, 462
Sansom, Dr. A. E., the Rev. John Ward, 994; heart disease, 1536, 1553
Santi (see de Santi)
S. Paulo, Revista Medica de (review), 1411
Sarcoma, electrolysis of, 356; inoperable, the use of toxins in, 888; inoperable, Coley's fluid in, 1328
Sarcoma: neck, 356; skin, 621; soft palate, 551; undescended testicle, 743; scalp, 1061; uterus, 1203; gracilis and adductor longus, 1268; neck, chest, and axilla, 1328; heart, 1329; kidney, 1329; rectum, 1329; knee-joint, 1330; intra-ocular, 1480
Saturday Review and medical students, 1004, 1088
Saturnine amblyopia, 742
Saundby, Dr. R., venesection in chronic Bright's disease, 435; modern universities, 930; criticisms of his address on universities, 1088, 1228
Savage, Dr. G. H., the case of Dr. Reichardt, 345
Save us from our (clerical) friends, 1035
Saw for removing plaster-of-Paris and other casings, 1274
Sawdust urinals, 714
Scalp, sarcoma of the, 1061; gummatous ulceration of the, becoming epitheliomatous, 1629
Scarborough, public vaccinators at, 1574
Scarlatiniform eruption in influenza, 1304, 1379, 1453
Scarlet fever, milk-borne, 503; "return" cases of, 1216; puerperium complicated with, 1260
Scarlet fever in swine, 703
Schäfer, Professor E. A., Essentials of Histology (review), 413; cortex cerebri of the monkey, 716; Text-book of Physiology (review), 1481
Schaeffer, Dr. Oscar, Obstetric Diagnosis and Essentials of Gynecology (two books reviewed), 485
Schaper, Dr. Alfred, Text-book of Histology (review), 997
Schlangenhausen, Director, the Habitual Drunkards Act, 107
Schlatter, Dr. Carl, further observations on a case of total extirpation of the stomach, 1314
Scholarships given in aid of medical study, 638-649
School Board for London, 53
School boards and their medical officers, 886, 1149
Schoolboys, the feeding of our, 1416
School children, eye-sight of, 719; medical examination of, objected to by the school board, 1083
School hygiene in Japan, 1428
Schoolmaster abroad, 273
Schools, corporal punishment in, 95; elementary, diphtheria in, 763; metropolitan poor-law, ventilation and warming of, 826; the exclusion of infection from, 1019; public, the physique of boys entering, 1142, 1229; public, and hospital stamps, 1284; medical officers for, in Berlin, 1370; elementary, diphtheria and, 1490
Sciatica, the nature and treatment of, 439
Science, the latest achievements of, 674; and medicine, 699; recent advances in, and their bearing on *medicine and surgery*, 909; and humanity, a gift to, 1803
Scientific criticism, misleading advertisements and, 1007
Scissors, surgical, and dressing forceps, 186
Scleroderma, case of, 1766
Sclerosis, insular, presumed case of, 1130
Scotch form of oath, 35; medical schools, 630-635, 651, 656
Scotch towns, health of (see Vital Statistics, weekly).

SCOTLAND, CORRESPONDENCE FROM.—Glasgow University, 57, 234, 720, 782, 1167, 1298, 1438, 1583, 1741, 1817—Glasgow University Club, London, 57, 1439—Hospital Saturday in Aberdeen, 57—Sanitary Inspectors' Association, 57—Meeting of the British Medical Association, 111, 176, 233—St. Andrew's Ambulance Association, 112—Faculty of Physicians and Surgeons, Glasgow, 112, 782, 1439, 1588—The reported increase of insanity, 112—Dundee Infirmary, 112, 1090—Hawkhead Asylum, 176—Important prosecution under the Medical Act, 177, 1509—Edinburgh University, 233, 1167, 1509, 1816—School of Medicine of the Royal Colleges, Edinburgh, 233—Aberdeen University, 233, 348, 1167, 1298, 1439, 1742—Extension of Aberdeen City Hospital, 233—Whooping-cough in Aberdeen, 233—Corporation baths, Aberdeen, 233, 1683—The Medico-Psychological Association, 283—University of St. Andrews, 284, 1090, 1230, 1298, 1538—The Workmen's Compensation Act: appointment of medical referees, 284, 348—Death of the medical officer of Montrose, 284—Aberdeen Sick Children's Hospital, 284, 1167, 1230—Death of the Very Rev. Principal Caird, D.D., 348—Queen Margaret College, Glasgow, 348—Memorial to the late Dr. Greig Smith, 348—Aberdeen medical volunteer staff corps, 349—New hospitals in Aberdeenshire, 510, 963—Epidemics in Aberdeen, 510, 840, 1167, 1742—Memorial window in honour of Principal Caird, 720—Hospitals in Aberdeen, 720, 1439, 1584—Horseplay at the Glasgow Royal Infirmary, 720—Sanitary Association of Scotland, 782—Ambulance associations in Aberdeen, 840—Aberdeen water-supply, 963 — Proposed public slaughter-house at Aberdeen, 963, 1090—Aberdeen corporation lodging house, 963—The winter session in Edinburgh, 1090—Aberdeen Royal Infirmary, 1090, 1817—Aberdeen and District Branch of the British Medical Association, 1090—The late Dr. F. I. White, 1090—Glasgow Veterinary College, 1167—St. Mungo's College, Glasgow, 1167—Glasgow Philosophical Society, 1298—Aboyne (Aberdeenshire) isolation hospital, 1298—Morningside Hospital, Aberdeen, 1298—Edinburgh Royal Infirmary, 1368, 1508—Reception at the Royal College of Surgeons, Edinburgh, 1438, 1669—Illness of Professor Struthers, 1438—Supper to Dr. Muir, 1438—*Royal Hospital for Sick Children, Glasgow*, 1439—Typhus fever in Edinburgh, 1509, 1583—Infectious diseases in Edinburgh, 1509—Dinner and presentations to Dr. James B Russell, 1509, 1583—Glasgow Western Infirmary, 1509—Glasgow Health Department, 1509, 1742—Curious action against a surgeon for assault, 1509—The new president of the Royal College of Physicians of Edinburgh, 1583—The *Princess* Louise at the Queen Victoria Jubilee District Nursing Institution, 1583—The hospital story of Glasgow, 1583—Glasgow Victoria Infirmary, 1583—Resignation of the medical health officers of Paisley, 1583—*Poisoning* by ammonia gas, 1583—Aberdeen Medico Chirurgical Society, 1583, 1742—Edinburgh University Total *Abstinence Society, 1669—Christmas* vacation in Edinburgh, 1669—Scottish Cremation Society, 1669—Sanitary matters in Paisley, 1669—Greenock Fever Hospital, 1669—Committee on reformatories for inebriates, 1669—Glasgow Medical Pioneers, 1741—Presentation to Mr J. Burns, 1742—The Inebriates Act (1898), 1316

Scotland, Sanitary Inspectors Association of, 57; vaccination prosecutions in, 64, 383, 459; Sanitary Association of, annual meeting, 782; Local Government Board for, Dr. J. B Russell appointed medical member, 945; the Highlands and Islands of, medical officer ships in, 1099
Scott, Dr. K, removal of lens in myopia, 806
Scottish Meteorological Society, Journal of the (review), 414, 702; Medical and Surgical Journal (review), 1134, 1341, 1710
Scurfield, Dr. H, Housing of the Working Classes Act, 445; infected milk, 953; annual report for Sunderland, 1429
Scurvy in Buluwayo, 773; infantile, and artificial foods, 1648
Sea, an explosion at, 1073
Seamen's Hospital and the teaching of tropical diseases in London, 158, 227, 1224, 1348, 1416, 1448, 1495, 1496, 1499, 1560, 1574, 1579, 1733, 1805, 1815
Sea-sickness, the treatment of, 122, 186, 303; coloured water sold as a remedy for, 502
Secresy, medical, 331; professional, the limits of, 960
Secret remedies, the medical profession and, 1604
Seismology, the "father" of, death of, 1300
Selective power of tissues, 451
Semon, Sir F, laryngology, rhinology, and otology, 369
Septic cellulitis, antistreptococcic serum in, 82
Septic tank filtration of sewage, 362
Septicæmia, puerperal, antistreptococcic serum in, 82, 750, 995; subnormal temperature in, 83; a case of, 1658
Sequeira, Dr. J. H., heart disease, 1666; mediastino-pericarditis, 1765
Sera, the agglutinating or sedimenting properties of, and their relation to immunity, 446
Sero-sedimentation test, Vidal's, apparatus for, 455
Sero-therapy in neoplasms, 565
Sero-therapy, the Naples Institute of, 1075
Sers, Mr. C. H, qualified assistants, 345
Serum, antistreptococcic, in puerperal septicæmia, 81, 82, 750, 995; in mastoid abscess, 82, 83; in erysipelas, 82; in septic cellulitis, 82, from erysipelas streptococcus, 113; in gangrene, 407; in malignant endocarditis and pyæmia, 615; in pyæmia, 753, 807, 1056
Serum, artificial, in lead colic, 178, in epilepsy, 783
Serum diagnosis and treatment in infectious *diseases*, 613
Serum treatment of plague, 65; of mushroom poisoning, 68
Serum, tuberculous, agglutination in, 721; tetanus, tetanus treated with, 794
Serum *versus* vaccine in plague, 1419
Serum therapeutics, the present position of, 248
Serums, rectal injection of the, 279, 433
Services, the naval and military, 43, 109, 171, 225, 278, 343, 431, 505, 576, 712, 777, 833, 897, 957, 1017, 1084, 1157, 1226, 1291, 1358, 1430, 1503, 1573, 1659, 1731, 1787, 1811
Services, examinations for the, 1445; the rejections at the, 1507
Sesamoid bones, fracture of the, 861
Seventh son, 700
Severed parts, the restoration of, 1074
Sewage, bacterial treatment of, 1816
Sewage disposal at Monmouth, 203, effluent (or contaminated water), watercress beds in, 423, 504; effluents, the standards of purity for, 497, question at Manchester, 782, system at Cookstown, 782; disposal, the Royal Commission on, 946, 1219, sludge, vegetables grown on, 1325, 1379
Sewage of London, the crude, 274
Sewer air poisoning, 1722
Sewer connexions, the water test as applied to, 1159, 1294, 1434; smoke test as applied to, 1294
Sewers in Paris, the rate of flow in, 37
Sexual Disorders of the Male and Female, A Practical Treatise on (review), 31
Sexual inversion, Mr. Havelock Ellis's treatise on, 1344
Shaffer, Dr. N. M., Orthopædic Surgery (review), 1409
Sharkey, Dr, glanders, 806
Shattock, Mr. S. G., acromegaly, 193, 1060; accessory parathyroid, 1000; cyst of the pineal body, 1551
Shaw MacKenzie, Dr. J. A., Maternal Syphilis (review), 938
Sheep, filaria strongylus in the, 442
Sheffield School of Medicine, introductory address, 994, 1152; sanitary authority and the Local *Government Board*, 1491
Sheild, Mr. A. M, swallowed coins, 223; abdominal section, 1125; Diseases of the Breast (review), 1553
Shellfish, typhoid fever and, 285; enteric fever and, 710
Sherrington, Professor, experiments on muscles, 715
Sherry, *its* production, composition, and character, 1135, 1225, 1295
Shillitoe, Mr B, pemphigus, 1397
Ship, excursion, for women and children, 765
Ships, medical inspection of, at Port Phillip, 512
Ships of war, American, medical aid in, 60
Shock, *injection* of saline solution in, 1390, 1506; strychnine in, 1636
Shoulder, dislocations of the, 439, 862, 1202
Shoulder joints, *disorganised*, in *locomotor* ataxy and syringomyelia, 455, presentations, a new method in, 1473
Shoulders, &c, ankylosis of the, 1217
Shrimps, potted, poisoning by, 781, 819, the *preparation of*, 970
Shuter, Dr. G. P, vaccination, 1735
Sibbald, Dr. J, address on suicide, 363
Sic vos non vobis, 247
Sigmoid flexure, enormous dilatation of the, 1121
Sime, Dr. D, tetanus, 794
Simon, Dr. C. E, Clinical Diagnosis (review), 1132
Simon, Sir J, golden wedding of, 274
Simon, Dr. Max F., Meteorology in the Straits Settlements (review), 486
Simpson, Dr. A., obituary, 1363
Simpson, Dr A R, the teaching of obstetrics, 296
Simpson, Dr. W J, plague in India, 450
Simson, Mr F T., Royal Masonic Institution for Girls, 899, varicose ulcer, 1529
Sind, plague in, 821
Sinus (*see Lateral* sinus, Frontal sinus)
Sir Thomas Browne and his Religio Medici (review), 486
Sirdar, a peerage *for the*, 893, 1292, his despatch, 940
Skelton, Mr. S. G., medical expert aid committee, 52
Skiagram (see ROENTGEN RAYS)
Skin, diseases of the, rest in, 372, inflammation of the, caused by reeds, 486; excretory irritation of the, 521; sarcoma of the, Coley's *fluid in*, 521; of the face, alleged removal of, to improve the appearance, 1681
Skin diseases, sketches and pictures of, 455; the nomenclature of, 627
Skirving, Dr, rupture of the kidney, 1633
Skull, operations on the, instruments for, 440, inner table of the, fracture of the, without *injury to the outer table*, 1388
Skye, unqualified medical practice in, 273
Sladen, Mr. D, Who's Who? 1899 (review), 1709
Slocock, Mr. R, carotid aneurysm, 1389
Sloggett, Lieut. Col. A. T, wounded in the Soudan, 713, 831
Small pox, clinical instruction in, 695
Small pox in Middlesbrough, 219; in Eston, 334
"Small pox, Kaffir," 773
Small-pox (see also Variola)
Smell, the physics of, 758
Smith, Surg.-Gen. A., obituary, 1512
Smith, Dr. A. L, *displacements of the uterus*, 441
Smith, Dr. A. P., the late, 623
Smith, Dr. E, laryngeal stridor, 652
Smith, Capt. F., diphtheria bacilli in the urine, 1325
Smith, Dr. H., Responsible or Irresponsible? *(review)*, 810
Smith, Mr. J Greig, the late, intestinal cancer, 189, 219; memorial to, 348, 804, 948
Smith, Dr. J. L., the breathing of oxygen, 368, typhoid fever in Belfast, 1739
Smith, Mr. Noble, caries of the spine, 549; infantile paralysis, 1196
Smith, Mr. P., accommodation theories, 1332
Smith, Mr. T. L, the late, 111
Smith, Mr. W., obituary, 1442
Smoke nuisance, 37, 94, 562, 1079, 1348; test for sewer connexions, 1294
Smyly, Dr. W. J, myomatous uterus, 441
Smyth, Dr. E. J., acromegaly, 193
Snell, Dr. S. H, an anomalous case of fever, 252
Snell, Mr. S, ophthalmic cases described, 148; mydrin, 173; diphtheritic conjunctivitis, 1267
Snellen, Professor, strabismus, 516
Snow, Dr. H., lymph gland juice, 1020, *Cancerous and other Tumours (review)*, 1770
Soap, "Amiral" (an application for obesity), 266; Victoria, 938; a misleading advertisement about, 1631
Societies (see MEDICAL SOCIETIES, Friendly Societies)
Society for Relief of Widows and Orphans of Medical Men, 206, 1095; for Physical Voice-*training*, 254; *for the Prevention of Cruelty* to Children, 275
Society of Apothecaries of London, pass lists, 180, 304, 634, 903, 1029, 1170, 1449; the Chelsea Physic Garden, 216, 238, 342, 1572; prosecutions by the, 687
Society (see also National Deposit, &c)
Socks for soldiers, 432
Soil, drying of the, and the public health of Buenos Ayres, 314; and the spread of disease, 444
Soldat, *Hygiène du, dans les* Tropiques (review), 266
Soldiers, foot-gear of, 432; British, in India, enteric fever among, 574
Soldiers morals and health, 816
Somatose and glycosuria, 59
Somerset Archæological Society, jubilee of, 727
Somerset, *superstition in*, 552
Somerville, Dr. W. F, anæmias of young adults, 515
Son, the seventh, 700
Songs, Nine Medical (review), 1642
Sore throat, cyclists', 95
Soudan, the climate of the, 1639
Soudan campaign, 39, 49, 282, 344, 433, 459, 578, *698*, 713, 839, 831, 897, 940, 957, 958, 1018, 1084, 1157, 1431, 1442, 1583, bullets for the, 182; music in the, 787; the troops from the, the sickness among, 1144
Soudan Gazette, 1345, 1658
South African drugs in the treatment of dysentery and ulceration of the stomach and intestines, 127
Southam, Mr. F. A, Charcot's joint disease, 1261, 1269
Southampton, medical report for, 575
Southport, low death rate at, 437; Hospital Sunday in, 840
Southwark, a church in, human remains in, 38; typhus *fever in*, 1345
Spanish military medical services, 53, 1796, Red Cross Society, 55; medical officer's experiences in Cuba, 419; language, the study of the, 1030; order *conferred on an* English medical man, 1220
Spanish or Spain (see also Madrid)
Spanish-American war, 49, 107, 172, 226, 231, 278, 244, 347, 416, 433, 577, 580, 713, 778, 834, 1729
Spectaclemakers' Company's optical examination, 1349

Speculum, rectal, 1558
Speech, The Faculty of (review), 555
Speer, Dr. W. S., obituary, 438
Spencer, Dr. H., hydrometra, 1634
Spencer, Mr. W. G., Practical Surgery (review), 996; gumma of the liver, 1476
Spermatozoa from stains in rape cases, 1335
Sphincter stretching in constipation, 960, 1020, 1087
Sphygmometer, 715
Spicer, Mr. W. T. H., cellulitis of both orbits, 1192; sympathetic ophthalmia, 1634
Spina bifida occulta, 1700
Spinal caries, the treatment of, 370, 549
Spinal cord, degenerations of the, relations of, to one another and to anæmia, 4; disease of the, following pregnancy, 324; disease of the, erythromelalgia in, 401; the cervical, crushing of the, and prolongation of life by artificial respiration, 1234
Spine, the typhoid, 1147; hips and shoulders, ankylosis of the, 1217
Spinks, Mr. W. M., House Drainage Manual (review), 1557
Spirilla in pleuritic exudation, 842
Spleen, enlarged, 1127
Spleen extract, clinical studies with, 363
Spleen, resonant, 866; 960
Splenitis, suppurative, 701
Splint and grip, automatic, 68
Spokes, Mr. S., the medical profession, 924
Spondylose rhizomélique, 1217
Springthorpe, Dr. J. W., "a reasonable faith," 418
Staining paraffin sections of objects, 321; flagella, 874; the Central Nervous System, Methods of (review), 1133; the capsules of pneumococcus, 1262
Standage, Mr. R. F., fracture of the skull, 1388
Stansfeld, Mr. J., the Oxford medical mission, 1294
Starch, the salivary digestion of, 823
Startin, Mr. J., aniline coal-tar dyes, 835
Starvation dietary, an infant's, 1347
State, the, the medical profession and, 849
Status epilepticus, the diagnosis of hystero-epilepsy from, 320
Steaks, bad, 1603
Steam, the application of, to the interior of the uterus, 820, 841
Steamship equipped for disinfection, 724
Steamship Guide, Rhodes's (review), 486
Stedman, Dr. T. L., Twentieth Century Practice of Medicine (review), 211, 1131
Steele, Mr. J., presentation to, 1678
Steele, Dr. J. P., accident to, 336
Stephens, Dr. G. A., whooping-cough, 1471
Stephens, Dr. J. W. W., staining flagella, 874
Stephenson, Dr. F. W. M., lead-poisoning, 1473
Stephenson, Mr. S., a new mydriatic, 24
Sterilisation of elastic catheters, 452
Steriliser, atmo-therme, 1643
Sternum and trachea, fracture of the, 1200
Stevenson, Dr. L. E., water-supply of Leicester, 1227
Stewart, Professor G. N., animal liquids, 452; Manual of Physiology (review), 1339
Stewart, Dr. P., paralysis agitans, 1258
Stewart, Sir T. G., presidential address to the British Medical Association, 288, 327; historical drama by, 1648
Stewart, Mr. W. R. H., empyema of frontal sinus, 1547
Stiles, Mr. H. J., mastoid disease, 371; multiple fractures, 1638
Still, Dr. G. F., enema rash, 1062
Stimson, Dr. L. A., Operative Surgery (review), 1409
Stings, insect, 565
Stirlingshire, medical report for, 423
Stockman, Professor R., tubercle bacilli, 447; recent synthetic analgesics, 447
Stockport union workhouse, 348
Stoddart, Dr. W. H. B., pathology of cancer, 1333
Stöhr, Dr. Philipp, Text book of Histology (review), 997
Stoker, Mr. G., wounds and ulcers treated by oxygen gas, 1645
Stoker, Sir T., coxa vara, 1480
Stomach, total extirpation of the, 39; muscular fibres of the, 87; ulceration of the, South African drugs in, 127; syphilis of the, 164; liquid air taken into the, 234; diseases of the, discussion on, 388; disease of the, injection of air and the sponge brush in, 369; the functions of the, 597; dilatation of the, tetany with, 796; total extirpation of the, a case of, further observations on, 1314; disease of the, operations for, 1440; ulcer of the, syphilis and, 1701
Stomach, Diseases of the (review), 877; Diseases of the: a Text-book for Practitioners and Students (review), 877
Stone in the bladder, the surgery of, 1250
Stoney, Mr. P. B., presentation to, 382; fees to public vaccinators, 1505
Stoney, Mr. R., urethral syringe, 998
Stonham, Mr. C., separation of the epiphyses of radius and ulna, 1326
Story, Mr. J. B., tuberculosis of the eyeball, 1480
Stothard, Mr. J., presentation to, 381
Strabismus, the treatment of, 178; operations for, 516; the first operation for, 516
Strabismus, Convergent, and its Treatment (review), 88
Straits Settlements, Meteorological Observations in the (review), 456
Strand, the silent, 498
Street noises, 36, 946; hawking by children, 764, 821; ruffianism, 943; danger, another, 1077, 1418
Streets, lawlessness in the, 499
Streptococcic pus, erysipelas produced by, 234
Streptococcus infection, pulmonary, 721
Stretcher Drill (review), 32
Stretton, Mr. J. L., cases exhibited, 1553; anti-tubercle crusade, 1663
Strictures, urethral, stretching of, 318
Stritch, Mr. G. S. R., presentation to, 304
Strontium bromide in epilepsy, 938
Struthers, Dr. J. W., inversion of the uterus, 1767
Strychnine, poisoning by, 52, 823; large doses of, in shock, 1636
Student, what is a *bonâ-fide*? 939, 1035
Student (review), 1134
Student's library and its use, 657, 667
Students, address to, 669
Students' number of THE LANCET, 589, 653
Sturrock, Dr. C., selective power of tissues, 451
Stypticin, 723
Stylographic pen, the "Calton," 1749
Subclavian artery, ligature of the, 1460
Subconjunctival blood-letting for hæmorrhagic retinitis, 143
Subhyoid region, diagnosis of a bullet in the, 901
Submaxillary region, cellulitis of the, 747
Subscriptions, financial assistance, defence funds, or appeals in aid of medical men or their relatives, 69, 122, 241, 345, 336, 463, 525, 557, 847, 1174, 1240, 1374
Subscriptions, prosecution for collecting, 847
Suckling a cause of abortion, 1193
Sugar in the urine, quantitative estimation of, 770
Sugar, luminous, 887
Sugars subcutaneously injected, the fate of, 1150
Suggestion, hysterical contraction of the forearm treated by, 983
Suicide, its social and psychiatrical aspects, 363; as the result of error in diet, 265; by the insane and by the sane, 363
Sulphaqua (for addition to baths), 1485
Sulphonal poisoning, 1638
Sulphur as a disinfectant, 445
Sumpter, Mr. W. J. E., paralysis agitans, 1434
Sundays, adulteration of food on, 1076
Sunderland, annual medical report for, 1429
Sunderland, Dr. S., uterine hæmorrhage, 986
Sunshine, the measurement of, at health resorts, 256
Sunstroke (?), hyperpyrexia in, 507
Sunstroke or delirium tremens, 635
Superannuation of Irish medical officers, 153
Superstition in Somerset, 552
Suppurative splenitis, 701
Suprapubic lithotomy, 205; cystotomy, 437
Suprarenal glands, suppuration of, 204; capsules, the functions of the, 494; bodies, primary malignant disease of the, 1283; extract in Addison's disease, 1765
Surgeon, the "private," 1505
Surgeons, colliery, the pay of, 1281, 1765; to mines, the pay of, 1718
Surgeon (see also House Surgeon)
Surgery, abdominal, cases of, 74; military, the x rays in, 218; the present position of, 249, 269, 353; liquid air in, 350; recent advances in science, their bearing on, 909; then and now, 1151; intestinal, some rudiments of, 1181; in 1898, 1772; dental, in 1898, 1760
Surgery, A Manual of (review), 87; Asepsis in, Lectures on, delivered in Arabic (review), 414; Practical, Outlines of (review), 996; A Treatise on, by American Authors (review), 1270; Operative, A Manual of (review), 1409; Orthopædic, Brief Essays in (review), 1409; Catechism Series (review), 1642; Orthopædic (review), 1703
Surgery (see also Chirurgie)
Surgical instruments, ancient, 287; exhibits, 378; instruments and appliances, exhibition of, 456; operations shown by the kinematograph, 902; dressing-table, 939; interference in gynæcology, 1404; companies, the registration of, 1524
Surgical Technics in Hospital Practice (review), 1340
Surra Disease, Reports on (review), 825
Sutherland, Dr. J. F., insanities of inebriety, 363
Sutton, Mr. B., tubal pregnancy, 1264
Suture-case, wire, 553
Swain, Mr. P., clinical experiences, 465
Swanage, the drainage of, 163, 228, 280
Swansea, diphtheria in, 1621, 1745
Swansea Hospital, annual report, 235; the new operating theatre at, 1224
Sweat, the toxicity of, 113
Swedish Touring Club's Guide to Sweden (review), 152
Sweet spirit of nitre, 1370
Swindlers in Florence, 815
Swine, scarlet fever in, 703
Swinhoe, Mr. G. R., presentation to, 1678
Switchboard, death in the, 431
Sydenham Society (see New Sydenham Society)
Sydney: the Hospital Saturday Fund, 179, 512; Queen Victoria Homes for Consumption, 511; Coast Hospital, Little Bay, 725
Sydney Hospital, tenure of the staff at, 179; finances of the, 512
Sykes, Dr. J. F. J., medical report for St. Pancras, 1014; public health administration, 1204
Sylvester, Dr. H. T., V.C., presentation to, 1494
Symonds, Mr. C., a pin in the vermiform appendix, 1062; gumma of the tongue, 1262
Symons, Dr. W. H., cancer, 1402
Sympathetic, the right cervical, paralysis of, 1064
Symphyséotomie à la Clinique Baudelocque (review), 694
Symphysiotomy, cases of, 440
Synthesis, pharmacology and, 417
Synthetic analgesics, the value of, 447
Syphilis, of the stomach, 164; congenital, certain aspects of, 371; acquired, interstitial keratitis with, 517; communicated by tattooing, 521; the stages and forms of, 563; Colles's law, the physiology of, 582; legislation relative to, in Japan, 894; and ulcer of the stomach, 1701
Syphilis, Maternal, including the Presence and Recognition of Syphilitic Pelvic Disease in Women (review), 993
Syphilis, Die Behandlung der (review), 32; Atlas der, und Syphilisähnlichen Krankheiten (review), 1640; Dermatologie und, Archiv für (review), 1710
Syphilitic phlebitis, 1023; virus, activity of, duration of, 1632; fœtus, the "mediate" treatment of, 1718
Syringe, hypodermic and aspiration, a new, 186; hypodermic, and case, improved aseptic, 811; urethral, 993
Syringomyelia with symptoms of acromegaly, 97; disorganised shoulder-joints in, 455; case of, 1262

T

Tabes mesenterica in infants, what is it? 1662
Tabib el Aila (an Arabic journal) (review), 266
Tablets and tabloids, various, 153, 154, 266, 1208
Tait, Mr. L., drunkenness of women, 227; uterine appendages, 778
Talbot, Mr. R. M., medical report on Poplar, 429
Tallerman treatment at Baden, 1450
Tangier, innovations in, 1796
Tannalbin tablets, 154
Taste, a matter of, 308
Tattersall, Mr., medical report for Oldham, 1083
Tattoo marks, the removal of, 1422
Tattooing, syphilis communicated by, 521
Taunton, Mr. G., dermatitis, 1470
Taylor, Dr. A. S., *Landry's paralysis*, 685
Taylor, Dr. C. B., saturnine amblyopia, 742
Taylor, Dr. F., pleural and pericardial adhesion, 1109
Taylor, Dr. H., sea-sickness, 122
Taylor, Dr. James, congenital myopathy, 1127
Taylor, Dr. John, medical officerships, 1099
Taylor, Mr. R., the late (a centenarian), 349
Taylor, Dr. R. W., Sexual Disorders of the Male and Female (review), 31
Taylor, Dr. S., carotid aneurysm, 1323
Taylor, Dr. T. R., the representation of the Royal College of Surgeons of England on the General Medical Council, 536
Taylor, Surg.-Gen. W., in the Soudan and India, 49, 227, 279
Taylor, Dr. William (Cardiff), presentation to, 1031
Taylor, Dr. William (Edinburgh), hot-air treatment of neuralgia and rheumatism, 1385
Tea, injurious effects of, 1432
Tea, Hooba, 938
Teachers, medical, 657

Tebb, Dr. W. S, A Century of Vaccination (review), 412
Teeth of persons joining the navy, 1090; ankylosis of, to the jaw, 1270; calcification of the, 1639
Teignmouth Infirmary, annual report, 623
Telegony, 582
Telegraph work, the effect of, on the health, 331
Telegraphy, wireless, 675
Telepathy, 677, 696
Telephone, theory of hearing suggested by the, 391
Temperance (see British Medical Temperance and Beer and Medical Temperance Review)
Temporo-sphenoidal abscess, 802
Tendon transplantation, 1406
Testamentary capacity, aphasia and, 443
Testicle, undescended, sarcomatous degeneration in an, 743
Testimonials, trade, medical men and, 462, 1035, 1099
Tetanus in Buenos Ayres, 316; treated with tetanus serum, 794; hypodermic injection of carbolic acid in, 1304; treated with tetanus antitoxin, 1326, 1432
Tetany, gastric, 791; with dilatation of the stomach, 798; and gastrectasis, 814; and tetanoid spasms associated with gastric dilatation treated surgically, 1333, 1392
Texas Fever, Reports on (review), 825
Textiles, the weighting of, 347
Theatre, the hygiene of the, 1147
Therapeutic *progress in* 1893, 1776
Therapeutics, the progress of, 300
Therapeutics, Ophthalmological (review), 30
Thermogen (see Electro-thermogen)
Thermometer case and tongue depressor, 1311
Thermopsychrophor, 1335
Therne (see Doctor Therne)
Thimm, Mr. C. A., Egyptian Self-taught (review), 435
Thin, Dr., fevers in British Guiana, 876
Third dimension, visual perception of the, 730
"This bill is dangerous," 220
Thomas, Dr. C. N., presentation to, 62
Thomas, Mr. W. T, œsophagotomy, 295; tattooing, 521; inoculation of, with lupus, 1267; saline solution in shock, 1390, 1576
Thompson, Dr. C. H, ulcer of the leg, 550
Thompson, Dr. J. A, leprosy, 1495
Thompson, Mr. J. J., Electricity (review), 1483
Thompson, Dr. T., cyst of the hyaline canal, 617; absence of the choroid, 1635
Thompson, Mr. Theodosius, presentation to, 305
Thompson, Dr. W. G., Practical Medicine (review), 263
Thompson, Professor W. H., peptone, 453
Thompson-Yates laboratories of physiology and pathology in University College, Liverpool, 768, 825, 840, 900, 954, 959, 1008
Thomson, Mr. A, resection of the pylorus, 1335
Thomson, Dr. J., Examination and Treatment of Sick Children (review), 210
Thomson, Dr. R S., a disease having relations with variola and varicella, 1051, 1131; 1521
Thomson, Dr. StClair, dysphagia, 1463, 1477
Thoracic (see Intra-thoracic).
Thorne, Sir R., control of tuberculosis, 1220, 1238, 1411, 1483
Thorne, Dr. W. B., blood-pressure in the insane, 174
Thornton, Mr H. J, biliary calculus, 1055
Thorowgood, Dr. J. C, asthma, 1623
Threepenny-bit, the tale of a, 1523
Thresh, Dr. J. C., Water Analysis (review), 212; medical report for Essex, 1014
Throat tablets, mentholated, 1203
Throat (see also Sore throat)
Thrombosis, venous, cases of, 206; in varix, 973; in typhoid fever, 1329
Thursfield, Dr. T. W., the conscientious objector, 1019
Thurston, Dr. E P, pregnancy simulating pedunculated fibroid, 322
Thyroid colloid in lupus, 1202
Thyroid extract, clinical studies with, 343; and parathyroid extracts, the action of, upon *metabolism in the insane*, 363, 546; in myxœdema, 1202, 1247, 1553
Thyroid gland, changes in the, in myxœdema, 1246; *partial removal of the, in myxœdema*, 1638
Thyroidectomy, blood changes after, 446
Tibbles, Mr. W., a trade testimonial by, 1035, 1099
Tibia, a rare fracture of the, 1198
Tinea, various species of, 268
Tintern Abbey, the preservation of, 458
Tiplady, Mr. W., disease of the ankle-joint, 786
Tirard, Dr. N, renal disease, 369
Tissues, selective power of, 451
Todd, Mr. J, presentation to, 1375
Toe-post shoes, 241
Toes, severed, restoration of, 1074
Toes, Fingers and, Deformities of the (review), 1770
Tone sensation, with reference to the function of the cochlea, 389, 451
Tongue, actinomycosis of the, 1061; gumma
Tongue depressor and thermometer case, 1341
of the, 1202; black, cases of, 1337, 1552; chancre of the, 1632
Tonsil, cartilaginous and bony nodules in the, 391, 750, 1061, calculus in the, 1335
Tonsils, the crypts of the, the introduction of drugs into, 769; epithelial pearls in the, 1201
Toogood, Dr. F. S., morphia in cardiac disease, 1333; the treatment of the insane, 1677
Toothplates, swallowed, œsophagotomy for, 295
Tooth powder, 1486
Torticollis, cases of, 439; treatment of, 1007, 1708
Tournament, the Royal Military, 107
Tourniquet, a new, 1434
Towels for females, 63
Town Refuse, The Removal and Disposal of (review), 693
Towns in England, the populations of, 362
Toxins, the transmission of, from the fœtus to the mother, 582; the use of, in inoperable sarcoma, 883
Trachea, rupture of the, 945; carcinoma of the, 1060; and sternum, fracture of the, 1200
Tracheitis, membranous, without diphtheria bacilli, 409, 779
Trade, the *Royal College of Physicians of* London and, 1663
Trade nuisances, chemical, 949
Trades, dangerous, 275; committee on, 942
Train (see Railway train)
Tramcar, accouchement on the top of a, 1379
Tramway employés, the health of, 512
Transposition of viscera, 455
Transylvania, pellagra in, 164
Tray, dressing, 998
Trephining, cases of, 802, 1129
Trevelyan, Dr. E. F, gastric tetany, 791; bacteriology, 1085
Treves, Mr. F, intestinal surgery, 1181, Perityphlitis (review), 1206
Trichinosis, increase of eosinophilic leucocytes in, 419
Trinidad medical ordinance, 1594
Tropical diseases (or medicine), the teaching of, in London, 153; a proposed school for, 227, 1224, 1490, 1660, 1574, 1654, 1660, 1722, 1736, 1805; instruction in, 1346, 1416, 1496, 1579; the Colonial Office and the General Medical Council on, 1443; the study of, in Liverpool, 1495
Tropics, unclassified fevers of the, 376
Troupes Coloniales (review), 265
Trunk, fractures of the, 862
Tsetse fly disease, *books* on, 731
Tsetse Disease, Reports on (review), 825
Tubal pregnancy, 1264, 1268; mole, 1267
Tubby, Mr, congenital hip displacement, 1405
Tubercle of the Fallopian tubes, 1637
Tubercle, false, filaria strongylus or, 442
Tubercle bacilli, dead, the pathological effects of, 446
Tubercle (see also Anti-tubercle)
Tuberculin, influence of, on cultures of the tubercle bacillus, 285; a plea for the more general use of, 293; as a test for tuberculosis in cattle, 512, 932, the preparation of, 524
Tuberculosis, the treatment of, at Loomis Sanatorium, 59; the prophylaxis of, 113; the fight against, 158; the treatment of, by tuberculin R, 194, the Royal Commission on, 237, 459; the prevention of, 258, 673, 932, 1101, 1147, 1649; intestinal, the surgical treatment of, 274; in cattle, the prevalence of, 308, 932; in Buenos Ayres, 314; the International Congress on, 349; laryngeal, 449, 618; in cattle at Birkenhead, 504; intestinal, 567; *avian and human*, 581; and the milk supply, 733, 835, 882; the National Association for the Prevention of, 824, 1213, 1651, 1715, 1725; open air treatment of, 1149, 1403, 1433, 1580, 1665, 1735; administrative control of, 1220, 1238, 1411, 1489; of the eyeball, 1480; conveyed by canaries, 1665
Tuberculous disease of the kidney, 132, 722, of the cæcum, excision for, 403, of the ankle-joint, 786
Tuberculous serum, *agglutination in*, 721, meat, 943; neuritis, 1335; perforation of the soft palate, 1423
Tucker, Mr. J, presentation to, 904
Tuke, Sir J. B., insanity, 311, 328, 353
Tumour diagnosed to be moveable kidney, 1553
Tumours, intracranial, the treatment of, 365
Tumours caused by pathogenic yeasts, 384, 526
Tunbridge Wells, sanitation and diphtheria at, 1160, 1797; battle of the clubs at, 1163
Tunis, diabetes in, 438
Tunnicliffe, Dr. F. W., piperidine, 198, 345, 433
Turck, Professor F. B., sponge-brush for the stomach, 359
Turin, medical congress, 1075
Turnbull, Inspec.-Gen, yellow fever and plague, 377
Turner, Dr. A., movements of the eyeballs, 148
Turner, Dr. A. J., dislocation of the clavicle, 1223; shoulder presentations, 1473
Turner, Dr. D, x ray photographs, 378; colour sensations, 452
Turner, Mr. G. R, a proposed school for tropical diseases, 227; medical work, 918; fracture of the trachea and sternum, 1200; the Seamen's Hospital Society, 1736
Turtle jelly, 154
Twentieth Century Practice of Medicine (review), 211, 1131
Tylosis of the hands, 1335, 1756
Typewriter, the Williams, 522
Typewriting versus penmanship, 1173
Typhoid cholecystitis and cholelithiasis, 96; bacilli in the excreta, 497; spine, 1147; orchitis, 1148; germs carried by flies, 1235; pleurisy, 1568
Typhoid fever, glossitis in, 38; and shellfish, 285; the origin of, 409; ice-cream and, 509; jaundice in, 566; the temperature in, modified by malaria, 772; due to milk-supply, 840; puncture of the colon with a trocar in, 871; midden-privy and, 1120; treatment of, 1265; vascular and renal lesions in, 1329
Typhoid fever in Chichester, 217; in the *American field forces*, 436; in Wimmera, 443; in Coseley, 509; in Dublin, 633; in Belfast, 113, 234, 669, 667, 705, 782, 831, 901, 949, 1359, 1368, 1428, 1432, 1534, 1667, 1737, 1739, 1797, 1812; in India, 717; in Strabane, 720; in Maidstone, 759, 771, 1022; in Aberdeen, 840; in Honicknowle, 904
Typho-malaria, the origin of, 409
Typhus fever in Blackpool, 710; in Southwark, 1346; in Edinburgh, 1509, 1558

U

Ulcer of the leg, treatment of, 550; varicose, treatment of, 1453, 1620; of the stomach, syphilis and, 1731
Ulcerating granuloma of the pudenda, 75, 1019, 1068
Ulcers, gastric, perforated, operations for, 296, 1061, 1476, 1628, 1761
Ulcers, corneal, 1043
Ulcers treated by oxygen gas, 1545
Ulna, lower epiphysis of the, compound separation of the, 1325; restoration of the, with the femur of a rabbit, 1332; various lesions of the, 1491
Ulster Eye, Ear, and Throat Hospital, annual meeting 349
Umbilical erythema, 831
Unchristian nescience, 1000
Undertakers, medical men and, 241, 336
Unfit, marriage of the, 678
United hospitals athletic sports, 154
Universities, modern, 930, 1088
University for Birmingham, 90, 104; a teaching, for London, 691; the nature and function of a, 915; the modern, medical education and, 939
University College (London) Medical School, *introductory address*, 924; *scholarships* and prizes, 939; annual dinner, 951; scholarship awarded, 1302
University education in Germany, 1423; Degrees Bill, 1599
University intelligence, foreign, 181, 236, 381, 458, 523, 726, 843, 967, 1030, 1095, 1170, 1301, 1374, 1449, 1528, 1745
Unqualified practitioners, conviction of, 39, 177; assistants, the General Medical Council and, 237, 306, 969, 1035, 1295, 1445, 1593; medical practice in Skye, 273; person, an operation in a hospital by an, 462; practitioner, the retort of an, 723; locum tenents, 817; practitioner cautioned by a coroner, 1749, practitioners, the General Medical *Council and*, 1718
Unregistered practitioner convicted of manslaughter, 91, 92; practice, penalties for, 173; club doctor, a short way with an, 241; dentists, anæsthetics and, 332
Uppingham, public vaccinators at, 1655
Uræmia, intravenous infusion in, 98; a question of diagnosis, 970
Uranium, the ray emitting properties of, 675, 678
Uranium nitrate in wine, 557
Urban burial, 1002
Ureters, catheterisation of the, 76
Urethra, diphtheria of the, 322; papillomata of the, 830; the female, dilatation of, for the *removal of vesical calculi*, 1405
Urethral strictures, stretching of, 318; syringe, 958

Uric Acid as a Factor in the Causation of Disease (review), 1408
Uric acid solvent, piperidine as a, 193, 345, 433, 507
Urinals, sawdust, 714
Urinary tract, septic infection of the, 356; fever at the beginning of catheter life, 681
Urine in myxœdema, 1248
Urine, diphtheria bacilli in the, 1325, 1471; methylene blue in the, 1476; hippuric acid in the, 1748
Urination, vicarious (?), 1214
Urine, sugar in the, quantitative estimation of, 770
Urmston, diphtheria at, 233
Uteri os, rigid, dilatation of, 441; cervix, *malignant disease of the, treated by vaginal* hysterectomy, 863
Uterine contents expelled entire at seventh month, 323; replacer, 468; appendages, the so-called conservative surgery of the, 778; sound, a modified, 812; hæmorrhage, as affected by the climate of altitudes, 956; arteries, ligature of the, *for a bleeding* fibroid, 1058; scar after Cæsarean section, 1335
Uterine (see Extra-uterine)
Uterus, fibromyoma of the, treatment of, 196; myomatous, extirpation of, per vaginam, 441; displacements of the, the cure of, 441; round ligaments of the, shortening of, 442; myomata of the, complicating pregnancy, 802; the interior of the, the application of steam to, 820, 841; inversion of the, 1057, 1294, 1702, 1767; gonorrhœa of the, 1305; ineradicable cancer of the, ligature of the uterine arteries *for*, 1406; *fibroids of* the, 1634; tumour of the os, causing hydrometra, 1634; septate, 1637
Uterus (see also Porro's operation)

V

Vaccinal legislation, 849, 884
Vaccination, efficiency in, 257; the position of, 289; a delusion, 325; of pupil teachers, 382; with reference to legislation, 444, 468; address on, 1130; optional, Italian critic on, 1284; of club patients, 1366; discussions on, 1441; instruction in, 1594; infantile insusceptibility to, 1735; matters relating to, in 1898, general retrospect of, 1790
Vaccination at Eston, 334; at Falmouth, 523; at Gloucester, 524; at Bournemouth, 556; in France, 721; at Devizes, 727; in Japan, 894; at Cardiff, 1435
Vaccination and revaccination, 34; and the Queen's Speech, 495; and vaccination marks, 872; and legislation, 884
Vaccination and its Results, A Report on, based on the Evidence taken by the Royal Commission (review), 212; the indexes to the Report, 267, 345, 822
Vaccination, A Century of (review), 412
Vaccination: prosecutions in Scotland, 64, 383, 459; defaulters, 117; questions, 183, 306, 458; Commission, the Report of the, the indexes to the, 267, 345, 822; grants, 382, 1095; leaflets, 382; question, Lord Lister on the, 426; *rashes*, 477; *exemption certificates*, 1096; Order (1898), 1210, 1293, 1412, 1494; officers and the new Act, 1237; returns of the Local Government Board, 1805
Vaccination Act (1898), the new, 498, 719; an American view of the, 890; a French view of the, 1034; vaccination officers and the, 1237; proposed petition for its repeal, 1591, 1819
Vaccination Bill, 64, 116, 117, 157, 182, 215, 238, 269, 275, 305, 330, 342, 343, 344, 382, 415, 460
Vaccination (see also Anti-vaccinator, Conscientious, "Glymph," Anti-vaccinationists, Doctor Therne)
Vaccinator, the "Association," 1770
Vaccinators, public, the association of, 1293; fees to, 1435, 1504; and the new Vaccination Act, 1501, 1574, 1655; the payment of, 1691; the fees of, in the Wycombe Union, 1665; in the West of England, 1711
Vaccine, serum *versus*, in plague, 1419
Vaccine Institute at Cairo, 59
Vaccine lymph, calf, the preparation of, 63, 459, 894; a strange objection to, 727; glycerinated, 1565, 1790; tubes of, a blower for, 1620
Vaccinia, the specific organism of, 1616
Vachell, Dr. C. T., pelvic cellulitis, 206
Vacher, Mr. F., medical report for Cheshire, 223
Vagina, double, 1637
Vaginal cœliotomy, 357; douches in midwifery, 387; section, 441; and abdominal section, combined, 1635; hysterectomy, 1637
Vallance, Dr. T. J., presentation to, 1301
Van Ermengem's method of staining flagella, a modification, 874
Varicose ulcer, treatment of, 1453, 1529
Variola and varicella, a disease having close relations with, 1051, 1131, 1363, 1581
Varix, its causes and treatment, with especial reference to thrombosis, 973
Vascular tension, different states of, the significance of, 354; murmur, 1327
Veale, Mr. H. de P. B., a new catheter dish, 811
Vegetable protoplasm, the action of anæsthetics on, 451
Vegetables grown on sewage sludge, 1375, 1379
Vein, or venous (see Intravenous)
Vegetarianism, hydropathy and, 1370
Vena cava inferior, obstruction of the, 1479
Venereal disease in Hong-Kong, 63; in India, 183, 524; in Gibraltar, 345
Venereal warts, the infectivity of, 1054
Venereal Diseases, Genito-Urinary Surgery and (review), 88
Venesection in renal disease, 369, 435; in acute pneumonia, 1125; in carbolic acid poisoning, 1326
Venous thrombosis, cases of, 206
Ventilation of dormitories, &c., 826; of underground electric railways, 1001, 1145
Vernon, Lord, his dairy farm, 733, 892
Verrall, Mr. T. J., gastric ulcer, 1628; cleansing the peritoneal cavity, 1815
Versicherungs-Diagnostik, Aerztliche (review), 1273
Vertebral spines, percussion of the, 23
Vesicæ ectopion, 1337
Vesical fistula in the groin, 144; calculi in the female, the removal of, 1405
Vesico-vaginal septum, tearing of the, closure of the vulva for, 1396
Veterinary colleges, Fitzwygram prizes to, 523
Veterinary department, the Cape of Good Hope, report of, 1218; the army, annual report, 1567
Veterinary (see also Royal Veterinary, &c.)
Vicarious urination (?), 1214
Vicars, Dr. F., surgical scissors, 186; the service in St. Paul's Cathedral, 1506
Victoria Cross awarded to a naval surgeon, 1564, 1579; awards of the, to the Royal Navy, 1659
Victoria Society for Nursing the Sick Poor, 568
Victoria (Manchester) University, pass-list, 380
Victoria (Australia), infectious disease in, 512, 724; public charities in, 725; lunacy in, 725, 770; water-supplies in, 824; cremation in, 1372
VIENNA, CORRESPONDENCE FROM.—Artificial respiration, 682—Largin, 682—Insurance against sickness for medical men, 683—Medical practitioners in Austria, 723—Stypticin, 723—The retort of an unqualified practitioner, 723—Treatment of chronic arthritis, 723—The influence of x rays in lupus, 1743—Heroin, 1743
Vienna, plague in, 1080, 1143, 1149, 1165, 1225, 1233
Village water supplies, upland, 899
Vin urané Pesqui, 557
Vines, Mr. S., sphincter stretching, 960, 1087
Virchow, Professor, the Huxley lecture, 163, 280, 423, 784, 909, 940; dinner to, 705, 947, 955, 1075; a photograph of, 948; visit to Liverpool, 1090; at the Berlin Medical Society, 1232
Vis medicatrix naturæ, 1405
Viscera, transposition of, 455; changes in the, produced by a long bicycle ride, 783; disease and disorder in the, the relation of the nervous system to, 1612, 1688, 1751
Visiting Lists, Wright's (review), 1710; Smith's (review), 1711
Visual accommodation, the production of, 715; perception of the third dimension, 730
Vital statistics, weekly, English towns, Scotch towns, and Dublin, 48, 106, 169, 225, 277, 343, 429, 504, 576, 710, 775, 832, 896, 956, 1015, 1083, 1156, 1225, 1291, 1355, 1429, 1503, 1577, 1656, 1730, 1811; monthly, of London, 169, 429, 775, 1017, 1356, 1657; Egyptian, 888
Vitality, 140, 173, 405, 539, 714, 957, 1020, 1086, 1158, 1228, 1354, 1506, 1733
Vivisection (see Anti-vivisection)
Voelcker, Dr. A., medical education, 923; calcareous deposit in the pineal body, 1551
Voice, pitch of the, 779
Voice-training, Physical, Society for, 254
Volvulus, cases of, 767, 1636
Volunteer ambulance school of instruction, 897
Volunteer Corps (see Services)
Vomiting, chronic, fasting in, 1478
Vulgar methods, 846, 1098
Vulva, closure of the, for vesico-vaginal fistula, 1396

W

Wade, Mr. R., presentation to, 904
Wales, University College of, at Aberystwith, 727, 1237, 1301
Wales, South, and Monmouthshire, University College of, meeting of council, 160
Wales, the Prince of, his Hospital Fund fo London, 162, 491, 709, 1284, 1491, 1569, 1795 the National Association for the Preventio of Tuberculosis, 1715, 1725
Wales, the Prince of, fractured patella, 221 273, 562, 883, 902, 1416; his travelling couch 387; honours for his medical advisers, 947
Wallace, Dr. A., the voice, 779; a diagnosis 970
Wallace, Mr. A. R., The Wonderful Century (review), 325
Wallace, Mr. C., bending of the neck of the femur, 1202
Wallace, Dr. D., Regina *v.*, 1645, 1736
Wallace, Mr. J., life assurance, 375
Wallace, Dr. John, the late, 719
Wallace, Dr. J. R., sarcoma in an undescended testicle, 743; *memorandum on medical* education, 903
Waller, Dr. A. D., anæsthetics, 451
Wallis, Mr. F. C., gastric ulcer, 1476
Walsh, Dr. D., irritation of the skin, 521; medical charities, 571
Walsham, Dr. H., nodules in the tonsil, 394, 1061; x rays in diseases of the chest, 938; epithelial pearls in the tonsils, 1201
Walshe, Mr. M. O., a home, 1529
Walters, Mr. A. P., uræmia, 970
Walters, Dr. A. R., puerperal septicæmia, 995
Walters, Dr. F. R., the prevention of tuberculosis, 258
Walters, Dr. J., puerperal septicæmia, 995
Wandsworth, medical report for, 1083
Ward, the Rev. John, the commonplace book of, 994
Ward-Humphreys, Mr. G. H., presentation to, 784
Waring, Dr. F. J. A., Hospital Reform Association, 960; presentation to, 1031
Warm dry air inhaler, 1711
Warmer, the Instra, 1749
Warming of dormitories, &c., 826
Warts, venereal, the infectivity of, 1054
Warwickshire, medical report for, 1083
Washbourn, Dr. J. W., abdominal section, 82
Wasp sting, death from, 565
Wassermann's new theory of immunity, 23
Water, bacteriological examination of, 97
Water, East London, 899
Water question, 63, 64; gas, 162; carriage of filth, 532; analysis, the press and, 820; gas, poisoning by, 1333, 1368
Water Analysis, A Simple Method of (review), 212
Water famine in East London, 561; in North-East London, 699, 886; in Cushendall, 782
Water-pipes, fish in, 824; horseleeches in, 1083
Water-supplies, upland village, 899
Water-supplies, public, the wholesomeness of, 90; the control of, 434
Water-supply, an infected, enteric fever caused by, 47; surface wells and, 442
Water-supply, the metropolitan, Royal Commission on, 43, 100, 165, 222, 275, 337, 1278, 1286, 1352, 1426, 1496, 1572, 1653, 1809
Water-supply of Belfast, 113, 720; of Camborne, 192; of Dorking, 270; of Deal, 459; of Liverpool, 719; of Bendigo, 724; of Aberdeen, 774; of Melbourne, 824; of Plymouth, 858; of Chard, 877; of London, 886, 1070, 1147, 1218; the metropolitan, 849; of Birmingham, 1071; of Leicester, 1152, 1227; of Llanelly, 1526; of East London, 1568
Water test as applied to sewer connexions, 1159, 1294, 1434
Water (see Holy water, Mineral water, Drinking water)
Watercress grown in sewage effluent or contaminated water, 429, 504
Weather, hot, dangers of, 219
Weatherly, Dr. L. A., medical progress, 851
Webb, Dr. Mabel Elizabeth, obituary, 1136; the late, 1282; memorial to, 1493
Webber, Dr. H. W., angina Ludovici, 747 measles and chicken-pox, 1199
Weber, Dr. F. P., Mineral Waters, &c., of Europe (review), 1272
Weber Dr. H., Mineral Waters, &c., of Europe (review), 1272
Webster, Dr. J. C., Diseases of Women (review), 413
Weigert-Pal method of staining, a modification of the, 321
Weight, increase of, in infants before death, 1219
Weighting of textiles, 347
Weir, Dr. A. McCook, a defence of the midwife, 1365
Wellington College, election of a governor, 93
Wells, surface, as a service of water-supply, 442
Wentworth, Dr. A. H., cerebro-spinal meningitis, 854
West Bromwich, sanitary administration in, 1656

West Indies, the hurricane in the, 818
West Kirby, children's home at, 176, 1433
West London Hospital, opening of new wards at the, 1149, 1651
West of England, public vaccinators in the, 1711
West of England Eye Infirmary, building fund, 304
Westcott, Dr. W. W., Extra Pharmacopœia (review), 152
Westminster Hospital, annual dinner, 951
Westmoreland, Mr. J., sphincter-stretching 1030
Wheat-supply of the world, 669
Wheaton, Dr. S. W., enteric fever and diphtheria, 575
Wheeler, Dr. H. J., public vaccinators, 1665
Where Two Worlds Meet (review), 1409
Whisky, Scotch, 1203, 1485
Whitaker, Dr. H., annual report for Belfast 1428
Whitby, Dr. C. J., shrimp paste, 970
White, Mr. C. P., malformations, 1154
White, Mr. F. F., the cochlea 1023
White, Dr. F. I., the late, 1090
White, Dr. J. B., influenza, 1373
White, Dr. J. W., Genito-Urinary Surgery and Venereal Diseases (review), 63
White, Dr. W. H., phthisis with peculiar cardiac physical signs, 1323, gall stones causing cholangitis, 1455, incorrect rumour regarding 1423, Materia Medica, &c. (review), 1642
Whitelegge, Dr. A., report on factories, 568
Whitla, Dr. W., Elements of Pharmacy, &c. (review), 755
Whitmarsh, Mr. J. Ll., convicted of murder, 1153, 1212, 1279, 1514, 1526
Whooping cough in Aberdeen, 233, treatment of, 1471; treated by anal medication, 1702
Who's Who? 1899 (review), 1709
Whyte, Alexander, D.D., Sir Thomas Browne (review), 498
Whyte, Dr. M., tricuspid stenosis, 1054
Wigham, Dr. W. H., persistence of hymen, 1325
Wilbe, Dr. H., cellulitis of both orbits, 1152
Wild, Dr. R. B., boric acid, 1476
Wilde, Dr. L., medical report for Bedfordshire, 1083
Wilkinson, Dr., tubal mole, 1267
Williams, Mr. C., syphilis 1032
Williams, Dr. D., Medical Diseases of Infancy and Childhood (review), 879, the birth-rate, 952
Williams, Mr. F. M., annual report for Plymouth, 710
Williams, Dr. P. W., Diseases of the Upper Respiratory Tract (review), 1067
Williams, Mr. W., paralysis of accommodation, 517
Williams, Mr. W. R., mortality from cancer, 481
Williamson, Brig.-Surg.-Col., the late, 107
Williams and Humbert, Messrs., sherry, 1295
Williamson, Dr. R. T., Diabetes Mellitus (review), 325
Willis, Dr. G., obituary, 842
Willmore, Mr. W. S., phthisis with peculiar cardiac physical signs, 1548
Wills, Mr. H. G., Text book of Zoology (review), 993
Wilson, Mr. A., death under chloroform, 260
Wilson, Dr. George (Banff), presentation to, 904
Wilson, Dr. George (Warwick), Handbook of Hygiene and Sanitary Science (review), 1565
Wilson, Dr. H. McLean, river pollution, 360, 445
Wilson, Dr. J., sarcoma of the palate, 551
Wilson, Dr. Bearlyn, medical report for Hastings, 575
Wilson, Dr. T., closure of the vulva, 1393
Wiltshire, a county medical officer of health for, 1382
Wimmera (Australia), typhoid fever in, 443
Wine, longevity and, 186; Pesqui (containing uranium), 557; gooseberry, a champagne substitute, 663
Wines various, 657, 938, 1485
Wingrave, Mr. W., nodules in the tonsil, 750
Winsford, gift of an infirmary to 1150
Winter resort, Innsbruck as a, 1093
Wire suture-case, 558
Wireless telegraphy, 675
Wise, Dr. A. T., tuberculosis, 1433, bacillary infection, 1665
Witnesses, expert, the rights of, in the United States, 1003; medical, special accommodation for, 1435
Woakes, Dr. E. and Mr. C., Deafness, Giddiness, and Noises in the Head (review), 1641
Woking Cottage Hospital, the nurses of, censured by a coroner, 1148
Wolfe, Dr. J. F., primary menstruation and first pregnancy in middle life, 323
Women, lavatory accommodation for, 333
Women, the drunkenness of, a physical basis in the, 159, 227, and the death of children, 1413
Women, the London School of Medicine for, the laboratories at the, 160; School of Medicine for (Royal Free Hospital), introductory address, 926
Women, Diseases of, A Text book of (review), 412; Diseases of (review), 413
Woodford, Dr. W. T. G., medical report for Berkshire, 1016
Woodhead, Dr. G. S., post diphtheritic paralysis, 367, bacteriological exhibits, 378; sanitary science, 953
Woods, Mr. W. J., My Home (review), 487
Woodward, Dr. W., the conscientious objector, 1506; oysters, 1528
Wool, arsenic in, 107, 227
Wooldridge, Mr. A. T., presentation to, 62
Woolsorter's disease, 382
Worger, Mr. R. G., inversion of uterus, 1294
Workhouse nurse, the disappointments of a, 382; infirmaries, nursing in, 459, 490; lunatics, the certifying of, 1347; infirmaries, pauper attendants in, 1665
Working Classes, Housing of the (Act and Amending Acts) (review), 1709
Working classes, Housing of the (Act), 445
Workmen's Compensation Act, medical referees under the, 69, 168, 277, 234, 235, 340, 348, 436, 574, 706, 836; a circular letter to the referees, 498; and certificates from hospitals, 1493, 1507
World, wheat supply of the, 669
Worlds (see Where Two Worlds)
Worms, round, intestinal obstruction from, 422
Worrall, Mr. C. Ll., laryngitis, 1122
Worth, Mr. E. H., medical certificates, 971
Wounds, alcohol as a dressing for, 736; pressure in the treatment of, 1475; union of, 1631; treated by oxygen gas, 1545
Wray, Mr. C., extraction of lens in myopia, 518
Wright, Professor, infective diseases, 513
Wright, Mr. W. S., anti streptococcic serum in gangrene, 407
Wunderlich, Dr. Otto, provident dispensaries, 672
Wyatt, Dr. W. T., obituary, 1691
Wycombe Union, the public vaccinators of the, 1574, 1665

X

X rays (see ROENTGEN RAYS)
Xeroderma pigmentosum, cases of, 372, 1123

Y

Yarmouth, Great, diphtheria at, 1650
Yarr, Major, malarial affections of the eye, 376
Yearsley, Mr. Macleod, discharges from the ear, 1336, Injuries and Diseases of the Ear (review), 1340
Yeasts, pathogenic, tumours caused by, 285, 525
Yellow fever, the spread of, 377; precautions against, 724; morbid anatomy of, 1005; in America, 1007, 1235; in New York City, 1351
Yttria, the fractionation of, 676

Z

Zebra hybrids, 352
Zeeman's phenomenon, 675
Zelle Die (review), 754
Zig Zag Ramblings of a Naturalist (review), 831
Zinc oxide, tabloids of, 266
Zinc salts in sheets and blankets, 343, in overcoats, dermatitis due to, 1470, 1494
Zona (see Herpes Zoster)
Zoology, Text book of (review), 993
Zürich, ancient Roman hospital near, 525
Zymin action, protoplasm and, 453
Zymotic diseases, nerve disorders in, 420

[*For List of Illustrations see next pages.*]

LIST OF ILLUSTRATIONS.

Photoprints of Sections of the Spinal Cord accompanying paper on the Relationship of Some Forms of Combined Degenerations of the Spinal Cord to one another and to Anæmia (Dr. J. S. R. Russell), 6, 8, 10

Cardiac and Chronographic Tracings illustrating paper on the Heart-Radial Interval and a hitherto unknown Method of Compensation in Aortic Regurgitation (Dr. P. M. Chapman), 21, 22

Diagrams and Photoprint illustrating paper on a case of Complete Rupture of the Aorta presenting some extraordinary features (Dr. R. Petch), 85, 86

Diagrams illustrating clinical lecture on Fracture of the Neck of the Femur in Childhood (Mr. R. H. Russell), 126

Skiagram of Halfpennies impacted in the Œsophagus for five and six months respectively revealed by x rays and removed (Mr. A. W. M. Robson), 133

Full-length Photoprint of a case of Pemphigus Serpiginosus (Dr. R. Y. Aitken), 139

Ori-nasal Inhalation Tube (Mr. H. B. Beale), 154

Sketch showing details of Enterectomy and *Cœlio-colostomy* accompanying paper on Intestinal Cancer and its Treatment (Mr. J. Greig Smith), 190, 191, 192

Portrait of a case of Acromegaly and Photoprint *of the Base of the* Skull showing Enlarged Pituitary *Body in situ* (Mr. J. B. Neale and Dr. E. J. Smyth), 193, 194

Chemical Formulæ represented diagrammatically and Graphic Lines illustrating paper on Piperidine as a Uric Acid Solvent (Dr. F. W. Tunnicliffe and Mr. Otto Rosenheim), 198, 200, 201, 202, 203

Portrait of a Patient and Sketch representing Thrombosis of the Veins accompanying paper on cases of Extensive Venous Thrombosis associated with Severe Rheumatic Carditis *(Dr. W. B. Cheadle* and Dr. D. B. Lees), 203

Temperature Chart of an anomalous case of Continued Fever with Perforations of the Intestine (Dr. S. H. Snell), 253

Diagrams showing the Prevalence of Tuberculosis, Tetanus, Pneumonia, Broncho-pneumonia, and Pleuro-pneumonia, illustrating *paper on the* Effects of Drying of the Soil upon the Public Health of Buenos Ayres (Dr. J. T. R. Davison), 315, 316

Instrument for Stretching Urethral Strictures (Mr. R. Harrison), 319

Diagrams accompanying paper on Pregnancy simulating Pedunculated Fibroid (Dr. E. P. Thurstan), 322

Photoprint showing Cartilaginous Mass in the Adenoid Tissue of the Tonsil and Photomicrographs of Sections of a Nodule, described in paper on Cartilaginous and Bony Nodules in the Tonsil (Dr. H. Walsham), 394, 395

Separate Plate containing six Illustrations showing the Microbe of Pictou Cattle Disease, *Sections of Liver of Cow*, Rabbit, and Human Subject and Diplococci found in the *Human Liver in* Progressive Cirrhosis, accompanying paper on the Bacteriology of Progressive Cirrhosis *of the Liver* (Dr. J. G. Adami), 396

Diagram of Operation of Gastrostomy accompanying paper on Gastrostomy *performed* by the Kader-Senn Method (Mr. A. E. Maylard), 476

Apparatus for the Treatment of Fracture of the Patella (Mr. H. Bigg), 481

A new pattern of Uterine Replacer (Dr. F. J. Hicks), 483

Diagram showing the appearance of Coccidia in the *Mosquito* as described in paper on the Rôle of the Mosquito in the Evolution of the Malaria Parasite (Surgeon-Major R. Ross and Dr. P. Manson), 489

Section of Spinal Column showing Partial *Destruction of* Vertebræ accompanying paper on Modern Methods of Treatment of Caries of the Spine (Mr. Noble Smith), 549

Drawings of Five Instruments *contained* in Wire Suture-case (Mr. T. S. Carter), 558

Photoprint of an Embryological Curiosity (Dr. J. R. Macmahon), 687

A New Aspirator *(Dr.* W. Catto), 695

Five-shilling Stamp of the Prince of Wales's Hospital Fund, 709

Chart showing the Influence of Malaria in modifying the Temperature of Typhoid Fever (Dr. F. Arnold), 773

Three-way Cock for administering Nitrous Oxide Gas and Ether, for Use with Clover's Inhalers (Dr. J. A. Codd), 811

Improved Aseptic Hypodermic Syringe and Case (Dr. E. M. Jenkins), 811

New Catheter Dish (Mr. H. de P. B. Veale), 811

Modified Uterine Sound (Mr. A. Duke), 812

New Anæsthetic Bottle, 812

Diagrams of the Limbs and their Joints in the Horse and the Human Subject illustrating paper on the Influence of Position in Fractures and Dislocations *(Dr. E. M. Corner)*, 859, 860, 861

Diagrams of the Thorax and Abdomen accompanying paper on a case of Cancer of the Pylorus (Dr. J. M. Clarke), 866, 867

Surgical Dressing Table (Dr. H. W. G. Macleod), 939

Plans of the Thompson-Yates *Laboratories* of Physiology and Pathology, University College, Liverpool, 954

Drawings of Hand and Arm showing a case of Hysterical Contraction of *the Forearm* successfully treated by Suggestion (Dr. S. K. Mullick), 934

Skiagram of Normal Chest and Skiagram of Chest of Chronic Pulmonary Tuberculosis showing Cavities at both Apices, described in paper on the X Rays in Diseases of the Chest *(Dr. H.* Walsham), 989

New Urethral Syringe (Mr. R. Stoney), 933

New Dressing Tray (Mr. S. Grubb), 938

Cutting Forceps for Use in the Treatment of Laryngeal Phthisis (Mr. R. Lake), 1068

Full-length Photoprints of a Child accompanying Description of a case of Chronic Infantile Meningitis with Basal Drainage (Dr. W. Overend and Mr. W. F. Cross), 1107

Drawing of Skull and Photoprints and Microphotographs of a Tumour *accompanying* Description of Uncommon Cases of Operation on *the Brain* (Mr. J. H. Nicoll), 1114, 1116, 1117

Graphic Curves illustrating the occurrence of Rheumatism in Children subsequent to an Attack of Chorea (Dr. F. E. Batten), 1195

Photoprints of Feet and Legs accompanying paper on a New Method of Restoring the Absent Function of Muscles in Infantile Paralysis (Mr. Noble Smith), 1196, 1197

Radiogram showing Deformity of Head of Tibia resulting from Fracture (Dr. L. Molloy), 1193

Full-length Photoprint of Patient presenting Extreme Deformity of the Lower Extremities (Mr. W. H. Battle), 1200

Metal A.O.E. Inhaler with a Simple Means of varying the Air-supply (Dr. W. J. McCardie), 1208

Amputation Retractor (Dr. F. W. Collinson), 1209

International Monument to Hans Wilhelm Meyer erected in Copenhagen, 1231

Graphic Curves illustrating Changes in Excretion of Urea and Nitrogen described in paper on Myxœdema and Allied *Disorders* (Dr. W. M. Ord), 1248

Lithotrite, Aspirating Catheter and Stylet described in paper on the Surgery of Stone in the Bladder (Mr. R. Harrison), 1254

Photoprint of Ileo-cæcal Junction and Appendix illustrating article on Acute Ileo-cæcal Intussusception (Mr. J. H. Ray), 1253

Saw for Removing Plaster-of-Paris and Other Casings, 1274

Graphic Curves showing Hourly Excretion of Urea by a Woman whose Stomach had been completely Removed (Dr. Carl Schlatter), 1317, 1318

Combined Tongue Depressor and Thermometer *Case* (Mr. J. D. Gabe), 1311

Hydrocele Injection Apparatus (Dr. Cuthbert Bowen), 1341

Aseptic Female Catheter Stand, 1341

Portrait of the late Surgeon-General W. C. Maclean, C.B., 1361

Eight Drawings of Apparatus employed in the Treatment of Neuralgia and Rheumatism by Currents of Hot Air (Dr. W. Taylor), 1385, 1386, 1387, 1388

Portrait of Patient illustrating paper on the Cure of Left Carotid Aneurysm by manipulation (Mr. R. Slocock), 1389

Statistical Diagrams illustrating the Result of the Treatment of Diphtheria by Antitoxin in *London compared* with that in Paris and Berlin (Dr. L. Cobbett), 1459

Drawings illustrating paper on the Mosquito and the Malaria "Parasite" (Lieut.-Col. E. Lawrie), 1468

Improved Form of Axis-traction Midwifery Forceps (Dr. G. P. Mathew), 1484

LIST OF ILLUSTRATIONS—(*Continued*).

New Pattern of Tourniquet, 1484

Improved Ormsby Inhaler with Attachments for the Administration of the A C E. Mixture or Chloroform (Mr. C. C. Braine), 1485

Eight Temperature Charts illustrating Paper on Reactions in Cases of Wounds and Ulcers treated by Oxygen Gas (Mr. G. Stoker), 1545, 1546

Improvements in Crutches, 1558

Nasal Curettes (Dr. G. H. Mackenzie), 1558

New Parallel Expanding Rectal Speculum (Mr. J. MacMunn), 1558

View of the Dental Hospital of London as it will appear when completed, 1573

Various Illustrations accompanying the Morison Lectures on the Relation of the Nervous System to Disease and Disorder in the Viscera: (1) Photoprints showing Nerves from the Body of the Uterus of Pregnant Cats and Nerves in the Apex of a Heart; and (2) Pulse Tracings under Various Conditions (D *Morison*), 1614, 1690, 1751, 1753, 1754

Seven Full length Photoprints of Patients, Sketch of Saw, and sev Diagrams illustrating paper on the Prevention and Correctio Short Leg in Hip Disease (Mr. R. Jones), 1624, 1625, 1626, 1627

The "Perfect" Hot Appliance, 1643

Atmo-thermo Steriliser, 1643

Portrait of the late Sir William Jenner, Bart., 1674

New Form of Warm Dry Air Inhaler (Mr. A. Duke), 1711

The "Association" Vaccinator, 1770

View of a Closet or Privy in Belfast accompanying paper on *Epidemic of Typhoid Fever in Belfast* (The Special Commissio of THE LANCET), 1812

END OF THE SECOND VOLUME FOR 1898.

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5. Whether the applicant is entitled or able in the circumstances which have arisen to look to any other source of assistance; and if so, what is the expected nature and extent of such assistance.

6. Whether the applicant is receiving, or has received during the past six months, pecuniary aid from any Medical Charity.

7. State how the applicant is qualified to receive assistance; vide regulation* on first page.

8. Particulars of:

Applicant's age

Number in family

How many are self supporting

How many are partially dependent

How many wholly dependent

Applicant's Signature

Address

Date

Continued from page 36 B]

THE LANCET.

LONDON: SATURDAY, JANUARY 7, 1899.

THE opening of a New Year reminds us that it is well sometimes to congratulate ourselves on the advantages of our time, to take stock of the past, and to make some preparation for the future. Nothing is stationary about us. The art we practise is not the same art as our immediate predecessors practised; it is not even the same art as the older members of the profession still with us learned in the schools and for a time practised. The change is so great and so fundamental that we are apt to overlook and undervalue what was really good and valuable in the older practice. The rapid multiplication of remedies and of therapeutical preparations is of itself confusing and it is not altogether a healthy sign. With every desire to keep up with research and the most advanced science we have always to remember that we are practitioners. Our help must be ready and practical. Our business is to deal with disease and its practical points in practical ways. In this light it is possible, not indeed to overrate the value of research, but to underrate the value of experience and of such close clinical observation of disease and its treatment as must be possessed by every good practitioner and teacher of medicine. The chief desideratum is a better understanding between men of research and men of practice. At present there is a wide gulf betweem them. But every year will tend to lessen it and to multiply men who can act as mediators between two classes equally indispensable for the advance of medicine as a science and an art. No man can now rest on what he learned before he qualified, but with a fair amount of attention to medical literature and to the labours of those who work primarily with a view to advance medicine as a science the medical practitioner is in a privileged position for watching the clearing up of those biological problems which bear on his great art and which have so revolutionised our conceptions of disease.

With these views we wish our readers a Happy New Year. And its happiness will be none the less if it is spent in getting our minds cleared of all prejudice and conceit so as to adopt an attitude of justice towards those who would place the art of medicine on a foundation of science without disparaging the teaching of those who in practice have shown readiness, wisdom, and success. The future of the profession depends mainly on the success with which its members realise the fact that they have to adapt and apply the discoveries of others to the relief of suffering, the curtailment of disease, the postponement of death. This is their *raison d'être*. No other profession can have a better one. And it is in the power of every individual practitioner—in the humblest village as in the greatest city, in every ship that sails under our flag, in the most distant of colonies—to make his contribution to the stability and the dignity of his calling.

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IT is evident that during the next few years those who have pinned their faith to vaccination and revaccination as a prophylactic measure against small-pox will have a hard battle to fight, not within the profession but amongst those ignorant and self-opinionated leaders of the simple and easy-going who at present are exerting such an influence for evil, an evil which will only become manifest in full degree, perhaps, a generation hence. Whilst we cannot but deplore that owing to the framing of the new Vaccination Act the law allows such a farce to be enacted as that played at Oldham, we, as a profession, must face the fact that it will now, more than ever, be necessary to study vaccination, especially so far as concerns the preparation and preservation of vaccine lymph, in such fashion that we may gradually eliminate the small proportion of danger mentioned in the report of the Royal Commission on Vaccination and do away with all possible objection to vaccination based on what may be called preventable grounds. Assuming that vaccination is essential to the prevention of small-pox on the one hand, and on the other that some of the dangers mentioned by the Commission are real and demonstrable, it becomes the duty of every medical man, by careful observation of his patient, by refraining from vaccinating unhealthy children, and by paying attention to the source of the lymph used, to keep down what are sometimes called "accidental dangers" to a minimum. With all this, however, there are certain difficulties with which it is impossible for the practitioner to contend and in which he must appeal for guidance and help to those who are engaged in special study of the subject.

The danger of taking vaccine lymph from unhealthy or actually diseased children, though often greatly exaggerated, is one which the Commission could not ignore and so deeply were they impressed with the necessity of having vaccination without even the appearance of evil and, above all suspicion, that their recommendation of the use of glycerinated vaccine lymph taken from healthy calves came as an additional argument in favour of thorough and repeated vaccination. If now there is to be a struggle between the civil powers and those who are misguided enough to assume that by repeated iteration of their opinions they will alter the position of the vaccination question it behoves us to be prepared with all the evidence which we can command in favour of the use of pure calf vaccine lymph. One of the principal objections raised to the use of calf lymph is that in certain cases an attack of erysipelas or of erysipelatous inflammation has been the direct outcome of vaccination with this material. There can, of course, be no doubt that very frequently lack of cleanliness or other carelessness on the part of those responsible for the care and nursing of the vaccinated patient ought to be saddled with the responsibility of causing such erysipelatous attack. Allowing for all this, however, a sufficient proportion of cases of "erysipelas" assignable to the use of carelessly prepared calf lymph remains to render it desirable that steps should be taken to eliminate this possible source of danger.

Since Dr. MONCKTON COPEMAN drew attention to the now well known glycerine method of preserving and purifying calf vaccine lymph strenuous efforts have been made abroad to ensure the purity of the *vaccine lymph supply*, and in England it is generally accepted that the addition of glycerine in certain proportions is a guarantee that the lymph will in time become freed from non sporulating pathogenic or septic organisms of all kinds so that if it still retains its "vaccinating properties it may be looked upon as a "pure lymph and may be used with safety for the vaccination of healthy children who are kept well nourished and clean

In order to be able to speak with some degree of certainty on this question we have obtained the advice and assistance of a Special Commissioner of THE LANCET who for some time past has been engaged in making inquiries on the following lines 1 Is glycerine, in the proportion usually recommended a sufficiently powerful germicide to ensure the destruction of such micro-organisms as may find their way into the lymph as it is ordinarily collected from the vesicles of the vaccinated calf? The question of time in the action of the glycerine on the active vaccine element has necessarily to be accepted by us as being determined by the period given as that beyond which the lymph cannot be relied upon to remain efficient 2 Are there any glycerine vaccine lymphs in the market so collected and preserved that the conditions laid down by Dr COPEMAN in his report to the Local Government Board are complied with? 3 How far do the vaccine lymphs sold as "pure" come up to this description? 4. If glycerine does not render lymph free from ordinary micro organisms, what are the forms which persist most obstinately and for the longest periods?

It is evident that in an investigation of this nature many side issues and minor questions naturally arise With these, however, it will be unnecessary to deal except in so far as they have a bearing on the methods which now generally obtain amongst those who are preparing, collecting, and preserving lymph whether glycerinated or not We hope in an early number to publish some of the results which have been obtained, but for the present it is scarcely necessary to do more than point out that glycerine undoubtedly, as Dr COPEMAN has claimed exerts a marked bactericidal action At the same time it is evident that upon many of the spore bearing organisms it has little or no effect This in many ways is a most important distinction Streptococci and staphylococci are not ordinary spore bearing organisms and are therefore comparatively easily killed off, it is thus probable that so far as erysipelas is concerned the addition of glycerine to vaccine lymph will in most cases be sufficient to do away with the risk of ordinary

three or four In three other cases the number of bacteria was very small and these were all of a spore bearing type *A number of the other lymphs* contained a very considerable number of micro organisms, in some cases non spore bearing One sample of lymph was exceedingly bad, another brand was good on one occasion and bad on another, and another which was fairly good on one occasion was bad when examined a second time On careful examination of these different samples of lymph it appears that the methods of preserving the vesicle from contamination and of collecting the lymph differ in a most remarkable degree Given the possibility of the exclusion of a large proportion of the spore bearing organisms in one case, it is extraordinary that this should not be carried out in others, and leaving out of account the staphylococci and streptococci — the organisms most frequently found on the skin—it might be imagined that by taking moderate precautions in the collection of the lymph those organisms which are derived from the surrounding dust and air would not be allowed to make their way into the lymph from which it is afterwards so difficult to eliminate them If the calf houses and furniture can be kept clear of these spore-bearing organisms in the one case it should surely be possible to do the same thing in others and until this is insisted upon we must look forward to the appearance of numerous spore bearing organisms in certain samples of vaccine lymph contributed by each company. The extra quantity of water which it is proposed to distribute would be filtered at the existing Battersea station of the Southwark and Vauxhall Company. The company has for some years wished to disuse and give up this station and has with that end in view recently completed new works at Hampton. The Battersea station was made many years ago and originally water was taken from the Thames at that point. Later, when under the Metropolis Water Act of 1852 it became incumbent on all the metropolitan water companies to obtain their supply from the Thames at a point above the tidal part of the river, the company arranged to have their intake at Hampton and conduct river water to Battersea where it was filtered before distribution. Under the new arrangements it became, of course, preferable that water should be filtered near the intake and away from the smoke of London. The land at Battersea had also increased very considerably in value and it seemed certain that the sale of land there would go far towards providing the capital necessary to carry out the new and improved arrangements at Hampton. The new work being completed it happens at the present time that the Battersea station is no longer required for the wants of the Southwark and Vauxhall Company. It was therefore possible for the company during the present year to supply the East London Company with a considerable amount of water daily during the drought. It is now proposed to extend the life of the Battersea station for an indefinite time and to make mains from Battersea connecting the works there with the various reservoirs and mains of the other metropolitan companies. A new main passing from Battersea to Campden-hill would communicate with the reservoirs of the West Middlesex and Grand Junction Companies. Another main passing southwards to Brixton would supply the Lambeth Company and other mains would supply the New River, East London, and Kent Companies. Through these new mains and through those which belong to the various companies it would be possible to provide any company which was in temporary want with an amount of from 10,000,000 to 20,000,000 gallons of water daily. The East London Waterworks Company may this year require water from some such foreign source and on behalf of the scheme which we have sketched it is contended that it would be a great advantage to any company to be able on an emergency to obtain temporary supply to tide over the effects of an accident. Against the scheme it may be pointed out that Battersea is not a suitable place for filtering arrangements to be carried out and that the station should not be used longer than is absolutely necessary. From this point of view it may be contended that it is useless to go to great expense in putting down new trunk mains which may never be required. On behalf of the scheme and in reply to this objection it is urged that even if the Battersea station as it exists at present were not always used it would be a not inconvenient place from which water could be distributed through the proposed new trunk mains. Arrangements might ultimately be made elsewhere and nearer to the intake from the Thames for the sedimentation and filtration of the water which should then be sent to the distributing station at Battersea and pumped to the place at which it was required. For this purpose it would be necessary to retain only a small amount of land at Battersea for a pumping engine and the rest of the land might be disposed of.

On the assumption that the East London Company will during the present year require more water than they can obtain from their own sources it is not well in the public interest to oppose a scheme which would amongst other things ensure a better temporary supply of water to the East-end, and if the metropolitan companies are willing to incur the necessary expense it is most unreasonable from a public point of view to oppose any outlay which they consider necessary for conducting their business in the best possible way.

With regard to the detail of the scheme it may, however, be pointed out that at the present time the whole of the metropolitan water companies taken together are authorised to abstract from the Thames a larger amount of water than they find it necessary to supply to their customers. There is no reason therefore why any further authorisation for the abstraction of water from the Thames should be given to the united companies to enable them to carry out this scheme. Another point not without interest to the customers of the New River Company is that under the scheme at present suggested that Company would supply a considerable amount of water to the East London Company and in its place would receive and distribute Thames water filtered at Battersea. It is perhaps doubtful whether the citizens of London, many of whom are said to pay for their water at the price of beer, will be pleased with such a change in their source of supply.

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UNDER the heading of "Naval Surgery" the *Times* of Dec. 28th last contained an opportune communication from a retired Inspector-General, R.N., dealing with the surgical and medical equipment provided for that service. Owing to the progressive advance of surgical and medical science it becomes indispensably necessary that many newly-invented instruments and scientific appliances should be provided from time to time if the advantages to be derived from new medical discoveries and developments in surgical art are to be practically applied for the benefit of sick and wounded men. There is a tendency which is perhaps not altogether unnatural, on the part of the finance branches of the public service, to lag behind and to allow their scales and standards to fall short of the actual requirements demanded by our rapidly advancing progress in these respects. The subject, it must be confessed, is not without its difficulties, but we certainly think that Inspector-General WALTER REID has done good service in calling the attention of the Admiralty to the deficiencies which exist in our navy and in pointing out the prejudicial effect which these necessarily entail upon all concerned and upon the medical officers of the fleet who are, of course, keenly desirous of bringing all the resources of their profession to the service of the sick and wounded officers and men committed to their care. That nothing which can be reasonably required in this direction should be withheld is so obviously right in principle that even on the ground of humanity alone there is no need to dwell upon the point. With a view to giving effect to it the sick and wounded sailor may, in a broad and general sense, be regarded as entitled to look to the State whose servant he is to supply all his needs and to see that he shall not be dependent upon the care, conscience, and opportunities of any individual medical officer for providing him with the latest applied results of medical or surgical science. The survival in the present age of any antiquated system to the contrary is an anachronism. That a too rigid system of economical administration has been hitherto pursued in regard to the Naval Medical Service seems probable and was, at any rate, commonly believed. Be this as it may, however, we entirely concur with Inspector-General **REID** in absolving the present Director-General, Sir **HENRY NORBURY**, from any responsibility in the matter and hope that it may be his good fortune to inaugurate during his official *régime* some more liberal and efficient system than that which he found when taking up the direction of the Naval Medical Service. The supply of surgical instruments to medical officers of ships is not, perhaps, an easy matter to elaborate, but we have no doubt that attempts will be made in this direction. As regards the Roentgen ray apparatus it would be easy, we think, to establish a school at Haslar for the special instruction of medical officers in its use and when this knowledge had been acquired, which is soon done, to supply shore establishments at home and some of the large hospitals abroad with the apparatus. Concurring generally, as we heartily do, with the object and spirit of Inspector-General **REID'S** communication it nevertheless contains a few points which are open to comment. All naval hospitals are, we believe, equipped with instruments and appliances of various kinds on an even more liberal scale than those of the army. The position of the naval medical officer on board his ship is very much the same as that which the surgeon of a regiment occupied when the regimental medical system was in force and it is only fair to observe that he has to provide his instruments at his own cost and so has every private practitioner on commencing practice. We do not say, of course, that the cases are to be taken as quite parallel, for, as we have already contended, we hold that in the interest and for the efficiency of the public service the Government, and not the medical officer, should provide what is necessary for the care and treatment of its own servants when sick or wounded in its service.

Annotations.

"Ne quid nimis."

EPSOM COLLEGE.

CHRISTMAS DAY is past and gone, but the Christmas season is yet with us. There are many demands still remaining upon the purse, some met all unwillingly in the shape of rates and taxes, some met to the utmost extent of the charitable man's purse, such as those which deal with doles to the sick and needy. Of the many charitable institutions scattered throughout the land there is none, we maintain, more worthy of support than the foundation of Epsom College. We do not refer simply to the foundation scholars but to the pensioners. These two foundations, to quote the words of the treasurer's letter to the *Times* of Dec. 27th, 1898, "deserve the support of all members of the community considering how unweariedly medical men labour for rich and poor, always exposed to danger, beset with grave anxieties, and not infrequently losing their lives in the discharge of their calling." The two foundations support fifty pensioners, either medical men in distressed circumstances or the widows of medical men, and fifty scholars, sons or orphans of medical men, at a cost of £6000 per annum. There exist for this good work practically no secured investments and the income is mainly dependent upon subscriptions and donations. A subscription of one guinea constitutes a governor for one year, a donation of £10 10*s.* makes the donor a life governor. Subscriptions may be sent to the secretary at 37, Soho-square, or to the treasurer, Dr. C. Holman, 26, Gloucester-place, Portman-square, W. The support of this charity is a matter which we have no hesitation in bringing before our readers. It is one for the benefit of our own profession, and in charity as in everything else the proverb holds good that God helps those who help themselves. The rich among us can do much and those not so well off can do a little. If those not connected with our profession see us ready to help our brethren in distress they will be all the more likely and willing to contribute of their superfluity.

THE PREVENTION OF CONSUMPTION.

THE sanitary authorities of Liverpool and Manchester are well to the fore in attempting to carry out some of the projects suggested by the National Society for the Prevention of Consumption and other Forms of Tuberculosis. At the last monthly meeting of the Sanitary Committee of the Manchester Corporation, Mr. Alderman Walter Smith presiding, a deputation was introduced representing the Manchester and Salford Sanitary Association who urged upon the committee the desirability of steps being taken to reduce the mortality arising from tuberculous disease. The deputation included several prominent medical men, some of whom expressed their views as to the steps which should be adopted to induce the community at large to help in the prevention of a "preventable disease." The members of the deputation laid special stress upon the value of segregation. They maintained that the establishment of sanatoria for dealing with cases of phthisis in addition to the direct therapeutic advantages which would be derived might do much in the way of education because they might become teaching places, as it were, where people would be taught how to deal with the causes of infection when they returned to their homes. We think that this is a point upon which hitherto sufficient stress has not been laid, for it is only by interesting and instructing the general community that any advance can be made towards combating tuberculous disease. Some of the speakers laid emphasis on the necessity of bringing phthisis into the same category as other infectious diseases, which would therefore mean notification. To this we most strongly demur. The social results would be deplorable and the enormous number of cases occurring daily would make such a proceeding practically impossible. Not only so, but the difficulty of detecting early cases would be immense. For unless notification were thoroughly carried out the measure would be useless, and every physician connected with a chest hospital knows that the early cases coming under treatment bear a small proportion to the total number of cases, especially amongst the men. The working classes are of necessity obliged to continue at work as long as possible, and the onset of pulmonary tuberculosis is so insidious that the patient will not apply for medical advice until the disease is fairly well advanced, consequently all such cases would escape notification for many months. With a speaker who took advantage of a smoking concert at the Breck-road Branch of the Working Men's Conservative Association at Liverpool to explain in simple language the means of spread of tuberculosis we are more in accord, for he dwelt mainly on the milk-supply and the importance of the superintendence of cattle, and we sympathise with the complaint embodied in the words "although tuberculosis is the principal cause of death in this city [Liverpool], the local authorities have no power to prosecute the vendor of the disease or insist upon the separation of diseased cows from healthy animals."

THE PRINCE OF WALES'S HOSPITAL FUND FOR LONDON.

THE honorary secretaries of this Fund have issued a tabular statement of the awards granted during the year 1898. A short account of these awards has already appeared in the daily press and the method and scope of the distribution do not seem to have met with unqualified praise. The report states that only those hospitals lying within a radius of 7 miles from Charing-cross which applied for grants within the stated time in answer to the advertisement inserted in the metropolitan journals have been assisted by the Fund. In all 46 hospitals received grants and 12 others applied who did not receive them. Besides these 13 convalescent homes received grants. Of the metropolitan hospitals with medical schools attached two, namely, St. Bartholomew's and St. George's, received nothing. On looking at the published details of the grants (the report will be found in another column) it would seem that some of the hospitals aided will not be very much better off—so far, that is to say, as regards their financial position—for in many cases—e.g., the Hospital for Diseases of the Chest, Victoria Park, the Great Northern Central Hospital, and the North London Hospital for Consumption—the grant is made conditionally on the opening of beds now closed, and in one case, that of the Female Lock Hospital, that the amount necessary for the reconstruction of the drainage of the hospital be provided for as soon as possible, from which we may presume that the grant from the Fund—a sum of £500—is not to be used for this purpose. In our opinion it is of some importance for a hospital to be in a solvent condition, unless, indeed, this would deprive the institution of the power of making the appeal *ad misericordiam* which a load of debt supplies. The distribution of money is, however, always a thankless task. There are always undeserving establishments as well as undeserving individuals and they are both apt to think that they are the contrary. But all the same we give the managers of the Fund every credit for a painstaking effort to make a worthy distribution.

THE NEW YEAR HONOURS.

THE selection of names in the 'honours' list for the New Year is so varied that it is not likely to be anything else but popular. Of the rewards to members of the medical profession a baronetcy goes to Sir Henry Thompson, F.R.C.S. Eng., whose work in the domain of surgery and especially that of the bladder is well known to the profession. As President of the Cremation Society he has done not a little to popularise cremation as a method for the disposal of the dead. Dr. Hermann Weber, F.R.C.P. Lond., who is a well-known authority on climatology and balneology, receives a knighthood, as does also Dr. G. Plunkett O'Farrell, Commissioner of Control and Inspector of Lunatic Asylums in Ireland. Sir Charles Cameron, M.D. Dub., is to be made a Companion of the Bath, an honour which is well deserved. Mr. R. U. Moffat, M.B., C.M. Edin., Principal Medical Officer of the Uganda Protectorate in East Africa, and Mr. J. S. Macpherson, L.R.C.P. & S. Edin., also of the Uganda Administration, are to be made Companions of the Order of St. Michael and St. George. Colonel William Pleace Warburton, M.D. Edin., I.M.S., and Colonel David Sinclair, M.D. Aberd., I.M.S., receive Companionships of the Order of the Star of India, and Lieutenant-Colonel Henry Kellock McKay, M.R.C.S. Eng., I.M.S., and Major Winthrop Benjamin Browning, L.R.C.P. & S. Irel., I.M.S., Companionships of the Order of the Indian Empire; Captain John Lloyd Thomas Jones, M.B. Durh., I.M.S., Captain William Ernest Jennings, M.B. Edin., I.M.S., Captain Arthur Frederick William King, M.R.C.S. Eng., L.R.C.P. Lond., I.M.S., and Lieutenant William James Niblock, M.B. R.U.I., I.M.S., are to be enrolled as Honorary Associates of the Order of the Hospital of St. John of Jerusalem in England. It is noticeable that the greater proportion of medical honours go to members of the Indian Medical Service, but it must be remembered that the Soudan honours have only recently been issued when the British medical service did not go unrewarded. This large military proportion, we think, shows the increased attention which is being paid to medicine in army matters and reflects in a large measure the great military strength of our empire.

THE LANCET RELIEF FUND.

THE report made this year by the Almoners of this Fund, founded as it is upon the accounts of the tenth year of its operation, suggests very naturally a somewhat more extended review than that of the period of twelve months which comes directly under observation. The year itself repeats in a striking manner the features to which we last year drew attention as being salient and satisfactory points in the experience of the charity. That is to say, it is again a notable feature of the report that the benefactions show a reduction both in number and amount, a circumstance from which it seems to be a fair inference that the pressure of necessity upon those of our professional brethren who have fallen upon evil times has been sensibly less acute than in some recent years. The experience of a single year would seem to afford but a slender basis for any general conclusion of this sort and it is therefore very pleasant to be able to point to a sequence of two annual reports tending to the same conclusion. When, moreover, it is borne in mind that the same period of time has been marked by many signs of general prosperity it is reasonable to take a sanguine if not confident view that the diminished stress is not more apparent than real and that the flood tide of a prosperous time has found its way even into the shallows where adversity is at home. Taking, however, the wider survey which is suggested by the close of a decade we note as matters of some special interest the figures which serve as indexes to the character of the charitable work to which the Fund has been subservient. Chief among these are the items which denote the sums granted by way of loan and by way of gift respectively. Out of a total of £2899 12*s.* distributed the sum of £1787 2*s.* has been given out-and-out, the balance of rather over £1100 having been nominally lent. We say nominally lent because it is found in many cases that the borrower is not able to redeem his promise to repay and thus a considerable proportion of the benefactions which figure as loans in the annual statements of account are loans only in name—in substance they also amount to gifts. The cases therefore which can be effectively aided by a loan are shown by experience to be fewer and to total to a less aggregate amount than those which demand the assistance of an unconditioned grant. And this is a feature which tends to become more and more pronounced. It was sufficiently marked in last year's statement to call for comment; it is still more conspicuous in the statement now under review. In this we see no matter for regret, although it must be admitted that to those who are behind the scenes and know the details of all the various cases dealt with there are none more interesting, none in which it is possible to extend the helping hand with a livelier sense of satisfaction than those in which a timely loan helps a brother overtaken by sudden adversity to help himself. That of a truth is the kind of mercy that is "twice blessed" and in the person both of him who gives and him who takes. Nor should it be forgotten that the repayments made by those who had benefited by the Fund form a most welcome addition to the resources of the Almoners and one by no means to be despised, seeing that a sum of upwards of £200 has in this way been placed at their disposal during the period now under consideration. This work, as we have before remarked, is so intimately associated with THE LANCET that we feel ourselves at liberty when writing about it to express our sincere thanks to the honorary officers—Almoners and Auditor—who have during the past year undertaken the duty of administering the Fund. Sir Samuel Wilks, Sir William Mac Cormac, and Sir Henry Pitman have in this way renewed the evidence which they have given in previous years of their interest in the welfare of the most unfortunate of our professional brethren. Sir William Turner who has been elected to the Presidency of the General Medical Council, vacated by the lamented death of the late Sir Richard Quain, has kindly consented also to assume the charitable *rôle* of an Almoner of THE LANCET Fund and has personally interested himself in the discharge of its duties. In presenting to each and all of them our thanks we assume to speak not only for ourselves as donors of the Fund, to whom its due administration is naturally a matter of solicitude, but in the name also of those who benefit by it and whose gratitude, not always articulate, is in not a few cases evidenced by expressions which it is a privilege to convey but a satisfaction largely alloyed with sympathetic sorrow to receive. The application form of THE LANCET Relief Fund will be found in our present issue and can be readily detached for use in case of need. We again take an opportunity of asking those of our readers who may have occasion to assist in furthering any application made for relief from this source to note carefully the conditions on which applicants become entitled to participate in the benefits of the Fund, as it is still found that many requests are put forward which are so far outside the objects of the benefaction that they cannot be entertained and from such applications nothing but disappointment can result. All applications should be made (in writing) to the Secretary, Mr. Edward Davies, THE LANCET Offices, 423, Strand, London.

TRUE HEROISM.

ON Dec. 28th, 1898, occurred an opportunity for one of those acts of unassuming heroism which we are proud to be able to say are not so very uncommon amongst us. In Clerkenwell Close there lives an electro-plater by name Grimme, but he was away and the foreman, Franklin, was in charge. The workshop is very small and the materials and chemicals necessary for the trade have mostly to be placed on the floor. At the time of the accident there stood on the floor an earthenware pan containing some 6 gallons of sulphuric acid and an iron pan full of cyanide of potassium. Franklin's three children were in the room and they, it is supposed, upset the vitriol which coming into contact with the cyanide immediately gave rise to a rapid evolution of hydrocyanic and carbonic acids. A boy named James Wright who was standing outside the room said he saw a thick smoke rising, noticed that two of the children had fallen into the pool of acid on the floor, and that Franklin had also sunk down. Wright ran upstairs, opened a window and called for help, after which he lost consciousness for a few minutes. On coming down he saw a soldier on the stairs. He groped his way into the room, hauled out one child by the legs, gave it to the soldier and again became unconscious. The soldier, who is a gunner in the Royal Artillery named William Hall, was going along the street when he noticed a crowd. He made his way into the house three separate times and brought out the children first and afterwards the father. The sufferers were taken to St. Bartholomew's Hospital and attended to. We have told this tale very plainly, but it seems to us that the action of both Wright and Hall is beyond all praise. Very possibly neither quite knew the danger which he was running, but anybody who has ever experienced that sensation of being gripped by the throat which the inhalation of hydrocyanic acid and carbonic acid produces will appreciate the pluck shown by these two heroes, and especially the bravery of Hall who went into the house three separate times. The crowd outside, by way of contrast, stood still, stared, and did nothing. The pluck of Hall and Wright will never be forgotten, and we hope that they will receive the Albert medal or some similar recognition of their admirable conduct.

THE NERVOUS SYSTEM IN SCLERODERMA.

IN the December number of the *Glasgow Medical Journal* Dr. Lindsay Steven publishes a lecture on a very interesting and important case of scleroderma in which there was pronounced hemiatrophy of the face, body, and extremities and in which he had an opportunity of examining the condition post mortem. A full clinical account of the case was published in the *International Clinics* in 1897. As regards the patient's condition on readmission to hospital in the spring of 1898 it need only be said that her skin on the affected side showed breaking down and ulceration, and it was on account of this and of the symptoms of an ovarian tumour—symptoms dating from August, 1897—that she sought readmission. Abdominal section was performed for the removal of this tumour but unfortunately she succumbed on the third day after operation. As regards the internal organs it need only be said that there was complete absence of pericardium, and there were *cicatrices* in the spleen and a condition of the kidneys of mixed parenchymatous and interstitial nephritis. The cortical matter of the hemisphere opposite to the atrophic side was perhaps a little thinner, but no microscopic examination is recorded. In the spinal cord, however, the grey matter of the right (the affected side) anterior horn was diminished, the ganglion cells were smaller and less numerous, and their nuclei and plasma granules were not so well defined as in the corresponding cells of the opposite side. The neuroglia also in the right horn seemed denser than in the left. Corresponding changes could not be made out in the medulla or pons. Throughout the cord, *medulla*, and pons the arteries, especially of the grey matter, were surrounded by spaces, either empty or containing a structureless homogeneous material, and most of these spaces had well-defined margins. The nerve fibres from the cervical and lumbar plexuses showed a well-marked parenchymatous degeneration. The skin showed the absence of fat, thickening of the horny layer, and atrophy of the *papillæ*. Between the papillæ and the muscles there was a thick layer of dense connective tissue. Dr. Lindsay Steven regards the atrophy of the anterior horn, the changes in the cells there, and the cavities around the vessels as of much importance and significance in reference to the morbid anatomy of scleroderma. He looks upon the condition as the result of these changes—i.e., as a trophoneurosis of central origin. The neuritis he regards as secondary and recent. The case is of much interest and its importance is enhanced by the long time—twelve years—during which the patient had been under observation. We should doubt, however, whether Dr. Lindsay Steven's explanation of the relation of the changes in the skin to those in the central nervous system will be quite satisfactory to everyone, and we should have thought it would hardly be necessary to invoke some recent parenchymatous neuritis to account for changes in the peripheral nerves. With such changes in the anterior horn cells and in the skin, changes in the nerves, both parenchymatous and interstitial, would be quite what we should expect. It would also be interesting to know the microscopical character of the changes in the cerebral cortex.

THE NEW PHYSICAL LABORATORY OF THE OWENS COLLEGE, MANCHESTER.

THE laboratory of which the foundation-stone has been laid on the twenty-fifth anniversary of the occupation of the present Owens College buildings will be the largest and most completely equipped in this country. It stands on a separate plot of ground adjoining the Owens College site and consists of a main building and a large annexe, the latter being more especially intended for electro-technical work. The principal building is 100 ft. long and over 60 ft. wide and consists of a basement and three storeys. The cost of the building with fittings and new apparatus is estimated at £30,000. It is intended to have at least one room set aside for constant temperature work and to establish a small plant for the production of low temperatures. An electro-technical laboratory will be added in which large currents will be available for electric furnaces. One of the features of the laboratory will be a carefully-planned system of ventilation combined with an attempt to exclude dust as far as possible from all rooms and especially from instrument cases. The plenum system had to be rejected because it takes up too much valuable basement space, because it is ineffective as regards exclusion of dust, and because the inevitable noise and mechanical shaking due to the fans would have seriously interfered with the work of the laboratory. The architect is Mr. J. W. Beaumont who, before finally drawing the plans, was sent by the Council of the Owens College to visit the principal modern laboratories of Germany.

VACCINATION LITERATURE AND LEAFLETS.

WE are asked from time to time where literature on the subject of vaccination can be obtained such as would be suitable for the purposes of educating the public in this matter by the aid of lectures and by the gratuitous distribution of trustworthy pamphlets and leaflets. We would refer inquirers as to this to Dr. Francis Bond, honorary secretary of the Jenner Society, Gloucester. Under Dr. Bond's supervision a series of very valuable pamphlets and leaflets has been compiled. Some are suitable for lecturers, others for issue to the public by vaccination officers, others, again, for distribution by district visitors. On this subject it is desirable to remind boards of guardians who desire that children within their jurisdictions shall be protected against small-pox andits miserable consequences that section 28 of the Vaccination Act, 1867, is still in force, and that under this section they are empowered to pay out of their funds all reasonable expenses in circulating information on the subject of small-pox or vaccination and in taking measures of this sort in order to promote vaccination. This section has always been held fully to cover the distribution of literature of this description and it would be well if public vaccinators were to urge boards of guardians to supply leaflets such as are issued by the Jenner Society to vaccination officers with a view to their distribution together with any notices which they may have to issue in accordance with the regulations governing the duties under the Act of 1898.

THE CENTENARY OF THE RUSSIAN MEDICAL MILITARY ACADEMY.

ON Thursday, Dec. 29th, at St. Petersburg the celebration of the Centenary of the Russian Medical Military Academy was opened by a religious service. The prize distribution to the successful students of the year then took place in the presence of the Grand Duke Constantine (the Honorary President of the Academy) and of the Minister of War and other distinguished men, including the Bishop of Finland and other ecclesiastics. Early on Friday morning a grand requiem service was held in memory of past Russian Emperors, patrons of the Academy. The great function of the celebration took place afterwards in the largest hall in St. Petersburg before a most distinguished company presided over by the Minister of War, the numerous decorations worn upon the brilliant uniforms of the officers and the bright colouring of the academic costumes of various nationalities giving much grandeur to the scene. Representatives from universities and scientific bodies were presented on the raised platform and offered congratulations from their respective societies. Among the British institutions which sent messages were the Royal Society, the Universities of Oxford, Cambridge, Edinburgh, Glasgow, and Aberdeen, and the Royal College of Surgeons of England. The delegates from these bodies comprised the Dean of Trinity Hall, Rev. H. S. Cronin, Professor Shipley, Mr. Owen, Mr. Cross, Professor Ogston, and Dr. Ferguson.

FRACTURE OF THE INTERNAL TABLE OF THE SKULL.

FROM *a priori* considerations we should hardly have considered it possible that the inner table of the skull could be broken without any fracture of the outer table, yet this lesion has been observed many times and Captain Standage, I.M.S. recorded an instance of its occurrence in THE LANCET of Nov. 26th, 1898, p. 1388. The earliest reference to this form of injury is to be found in a work called "De Fractura Cranii," published by Jacobus Berengarius in 1535; Ambrose Paré alludes to it also.[1] Garegeot relates a case observed by Mery.[2] Pott mentions two cases in his work "Observations on the Nature and Consequences of Wounds and Contusions of the Head."[3] Samuel Cooper described the condition in his "Surgical Dictionary."[4] W. F. Teevan[5] was the first to point out the true explanation of the greater extent of the fracture of the inner table in ordinary fractures of the skull and therefore the reason why the inner table may be broken while the outer suffers no injury. He showed that in all fractures it is the side of extension and not the side of compression which is the first to break, and when the skull is struck the outer table is compressed and the inner table is stretched. Guthrie, in his "Commentaries on the Surgery of War,"[6] describes the occurrence of this form of injury, but probably the best account is to be found in the "Medical and Surgical History of the War of the Rebellion"[7]; during that war there were 20 cases in which the inner table was broken without any fracture or depression of the outer table; in 4 of the cases trephining was unavailingly performed and only 1 patient recovered of the whole number of cases. La Motte[8] stated that a "cracked pot sound" could be obtained over the broken bone and Strohmeyer[9] found the pitch on percussion to be distinctly high. It is difficult to give any exact estimate of the frequency of the lesion for it is probably often overlooked and if the fracture gives *rise to no* symptoms recovery may occur without the surgeon recognising that any fracture has taken place. Prescott Hewett[10] found 3 cases in 78 necropsies on cases of injuries to the head; in two of these the lesion was very slight, but in the third case it was severe. He mentions that he had met with only one other case. When the question of the etiology is investigated it is found that in a large proportion of the recorded cases the oblique impact of a bullet has caused the fracture,[11] while in some the injury has been due to a "spent" ball. In a case recorded in 1880[12] the patient received a "brush" blow from the handle of a crane. Of the 20 cases recorded in the "Medical and Surgical History of the War of the Rebellion" 14 were due to the oblique impact of musket balls. It is probable that with our modern projectiles of high velocity this variety of fracture of the skull will be less frequently seen.

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[1] Œuvres, vol. x., p. 225, 1652.

[2] Traité des Opérations de Chirurgie, second edition, 1738, vol. iii., p. 122.

[3] London, 1760, p. 16.

[4] Eighth edition, p. 899.

[5] British and Foreign Medico-Chirurgical Review, vol. xxxvi., p. 189.

[6] Sixth edition, p. 341.

[7] Part I., vol. i., p. 141.

[8] Observations de Chirurgie, vol. ii., p. 305.

MENTAL CONCENTRATION UPON A PART AS A FACTOR IN THE FORMATION OF A NEW GROWTH.

IT has long been a popular idea that too much thinking about any particular part or organ may lead to disease of that portion of the body, but it must be confessed that very little substantial basis of fact has served as foundation for this superstructure. Dr. Carpenter was, we believe, the first to point out and to demonstrate by experiment that concentrating the mind on a special part of the body will lead to a local hyperæmia with sensations of tingling and itching, but, so far as we are aware, no true inflammation was ever produced. It is not difficult to understand that the directing of the mind towards some particular part of the organism may alter the blood-supply of that part and so may modify materially its nutrition. If this be possible—and who can say it is not?—it is not at all unlikely that morbid changes may result from, or be predisposed to by, these slight beginnings. It is very difficult, however, to find many cases which can only be explained satisfactorily by some such theory. Mr. W. H. Bennett, in a clinical lecture recently delivered at St. George's Hospital and published in this issue of THE LANCET, quotes two cases which if not convincing are at least very suggestive. In each of them increased growth of a tumour appeared to follow the continued concentration of the patient's attention on the part. It has occasionally happened that a physician or a surgeon who has paid particular attention to the diseases of some one organ or region of the body ultimately suffers from an affection of the same part. These cases, though striking, are but few in number and no more numerous than would be expected from the laws of probability. If there were any certain foundation for such an idea medical men might be found to hesitate before "specialising" on the more painful and unpleasant diseases to which the body is liable.

THE LIVERPOOL LADIES' CHARITY AND LYING-IN HOSPITAL.

BY a majority of 45 to 31 votes the subscribers to the Liverpool Ladies' Charity and Lying-in Hospital carried the following resolution: "That single women in exceptional circumstances who, after careful investigation by the ladies' committee, are found to be deserving objects of charity, shall be eligible for admission into the hospital for their first confinement." It was pointed out by Mrs. Henry Tate, who moved the resolution, that its terms were in accordance with *the rule which was in force at the City of London Lying-in* Hospital dealing with similar cases. She wished it to be understood that the supporters of the resolution only wished to deal with women otherwise respectable, such as shop assistants and domestic servants. They would have nothing to do with women of the profligate class and such as were familiar with the rescue homes and the nigh mission. The proposal had the approval of the promoters of the Victoria Women's Settlement, Monsignor Nugent and the Countess of Derby. The latter was eminently qualified to speak on the question as before she went to Canada she had for eight years under her supervision a home containing twenty beds, the occupants of which had all turned out satisfactorily with the exception of two. Much stress was laid upon the fact that the hospital which contains fifteen beds had only three and a half beds occupied per week, which clearly shows that the position of the poorer women had altered since the foundation of the charity in 1841. At that period the opportunities afforded for nursing these poor women in their own homes were not so favourable as at the present time. The advances made in the direction of sanitation, better wages, and cleaner houses for the working-classes enabled them to remain at home during the period of confinement in a large proportion of cases. These circumstances indicate that the objects for which the charity was initiated were to a great extent defeated by the force of changing times and that the hospital might be utilised in deserving cases for the benefit of a class largely more sinned against than sinning. The rule of a hospital which only affords benefits to less than one-fourth of the number provided for by the founders is clearly in need of modification. It is computed that 200 respectable unmarried girls are confined yearly in the Liverpool workhouses. These poor girls cannot avoid contamination from the associations with which they come in contact, thus affording an additional argument for a more humane line of treatment in the matter of admitting them to the wards of a lying-in hospital (special or otherwise as the case may be). The resolution had the warm support of Mr. William Rathbone, whose length of experience in the management of general hospitals and workhouses is probably unequalled. The change of law will involve considerable expenditure in the matter of additional beds and probably in the construction *of a new block*. Promises of contributions have already been made for these objects and the generally expressed opinion prevails that the subscribers to the charity in their new departure have acted in accordance with the charitable spirit of the age.

THE PROPHYLAXIS OF PLAGUE BY HAFFKINE'S INOCULATION.

ON Nov. 22nd, 1898, Mr. Balchandra Krishna, the President of the Grant College Medical Society of Bombay, read an interesting paper before that society on the prophylaxis of plague by Haffkine's method. The inoculating fluid is prepared by sowing plague virus in a neutral mutton broth mixed with a small quantity of cocoanut oil or ghee. When the growth is at its height the culture is heated and carbolised. It is then set aside, when the fluid separates into two portions, the one a sediment containing the remains of the bacilli, the other a limpid fluid. It is the latter which is used for prophylactic inoculations. The dose for a healthy adult male is 2·5 c.c. of a standard solution which is repeated in ten days or a fortnight. There is a good deal of reaction, the temperature rising to 102° or

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[9] Maximen der Kriegsheilkunst, second edition, p. 331.

[10] Transactions of the Royal Medical and Chirurgical Society, 1853, p. 338.

[11] Duplay and Reclus: Traité de Chirurgie, vol. iii, second edition, p. 418.

[12] Brit. Med. Jour., Nov. 27th, 1820, p 844.

104° F. with a feeling of malaise, but this subsides in twenty-four hours. Pain at the seat of inoculation lasts from four to five days and then subsides. M. Haffkine's preliminary experiments were made on rabbits. Twenty were taken, of which ten were inoculated. All the twenty were then infected with plague. All the ten unprotected died, while the ten inoculated ones lived. In the case of human beings inoculations have been made at ages varying from seventy years to ten days. Up to the present no evil results have been noticed to follow the injections. In the inoculations performed in Bombay during the first year of the recent epidemic there were three deaths which occurred within a few days of inoculation. One of these was from definite plague, one from suspected plague, and one from paralysis. The number inoculated altogether was 8142. Pregnant women do not abort if inoculated with small doses often repeated. Besides the prophylactic effect against plague the inoculation would seem to have a good result in cases of chronic malarial fever. Mr. Krishna cites the cases of Captain Macdonald, I.M.S., and his servant, who were inoculated when suffering from chronic attacks of fever with the result that the fever left them. As to the efficacy of the inoculation the instance of the Byculla House of Correction shows that it does possess a real protective effect. During an epidemic in this prison 173 persons were uninoculated; of these 12 were attacked and 6 died. Of 148 inoculated 2 were attacked and both recovered. In Damaun 2197 were inoculated and 36 died. Of those uninoculated, 6033 in number, 1482 died. Many of the tables of experiments in various districts are given and the conclusion drawn by Mr. Krishna from them is that Haffkine's process has a very real protective influence against plague. In his opinion "it is our duty as medical men to encourage it by all possible means and to induce the public to take full advantage of it."

RED CROSS EXTENSION.

IN the Students' Number of THE LANCET for 1893 we commented on the ever-enlarging field for medical science and medical practice, taking as our text the proposal made at the last International Congress of the various Red Cross associations that that great "relief organisation" should widen its scope and include not only the transport, the tendance and the treatment of the wounded on the field, but also the care of the injured in the colossal disasters so frequent in modern life—mining explosions, floods, earthquakes, railway accidents, and such like, as well as the sufferers in famines, droughts, and epidemics. Here, it was said by the authors of that proposal, we have a well-trained, amply-equipped relief service, mainly medical in its inspiration and its *personnel*—a service, moreover, completely its own master except on the outbreak of war. Why should it be idle when in time of peace a widespread, far-reaching calamity overtakes a district or a populous centre and not put its admirable organisation and working staff at the disposal of the sufferers? Advanced as a "pious opinion" and superficially discussed at the International Congress referred to (that at Rome in 1892), the proposal was seriously taken up and in great measure threshed out in the succeeding International Congress (that held at Vienna). Now, in view of the next congress of the kind the various Red Cross associations throughout Christendom have been invited to consider the best means for giving practical effect to this new development so as to contribute to the preparation of an "order of the day" which, on approval by the congress, shall thereafter become part of the programme of the Red Cross and bring the organisation into closer touch with daily life and modern evolution. Surely this is a proposal which is deserving of cordial consideration and support. The Swiss, the German, and the Russian delegates at the Vienna Congress spoke for their respective nationalities in its favour, and it is expected that at the next congress Great Britain and France will also give in their "adhesion." Italy, indeed, has long ago anticipated the proposal by her practice. Visited more than any other European country with floods and earthquakes, and with her full share of the casualties incurred by modern life, she has not scrupled to employ Red Cross service for the relief of suffering so occasioned; and, while always respecting the funded resources specially set apart for the wounded in war, has utilised the trained *personnel* of the organisation wherever on a large scale its intervention was required. She has even started subsidiary services, the "Croce Bianca" and the "Croce Verde" (White Cross and Green Cross), to render similar aid—services which, of course, will be absorbed into the greater unity of the Red Cross when once the proposed development of this latter becomes law. In Tuscany the "new departure" contemplated has been enthusiastically taken up and the leading aristocracy, reinforced by the clergy and the more public-spirited of the citizens, are founding sub-associations to fall into line with the main body on its assuming civilian in addition to military duty. Demand for increased medical assistance is one of the inevitable consequences of the movement and the War Office is affording facilities at the autumn manœuvres for the training of a more numerous *personnel*. Amid much that is discouraging, and even disquieting, in Young Italy, her alacrity to promote "Red Cross extension" is certainly consolatory and reassuring. She claims, not without right, priority in having conceived the organisation in time of war. She is laudably making it her ambition to be the first to utilise it in time of peace.

THE TREATMENT OF ANEURYSM BY THE CONJOINT USE OF GALVAINSM AND INTRODUCED COILED WIRE.

A REPRINT has been issued of a paper which appeared in the *Philadelphia Medical Journal* for Nov. 17th, 1898, by Dr. D. D. Stewart, on the above subject. After referring to cases on record which have been similarly treated he gives details of seven cases which were either under his own care or in which he was personally interested and directed the technique. The results were most encouraging, the more prominent symptoms of the disease being kept in abeyance and, as shown by the examinations made after death long periods after the operation, the fatal termination not always being due to the aneurysm, well formed and organised clot was discovered. Dr. Stewart briefly summarises the main features of the operation. It consists in introducing into the sac, under the strictest antiseptic precautions, a fine coiled wire previously so drawn that it may be readily passed through a thoroughly insulated needle of somewhat larger calibre than the wire and after introduction may assume marked spiral coils, so that, with a moderate amount of wire, the entire calibre of the sac will be occupied by wire unless the cavity be already filled with coagula or the sac be of unusual size. Silver, gold, and platinum wire are undoubtedly the preferable materials. The amount of wire required depends necessarily upon the calibre of the aneurysmal sac and must be decided upon with the greatest nicety of judgment, as with too small an amount little or no result will be obtained and with too great a quantity permanent cure through obliteration of the sac by contraction of the clot cannot be expected. The anode or positive pole should invariably be the active electrode. This is connected with the wire and the negative rheophore, a large clay plate or an absorbent cotton pad made after the method of Maney, is placed upon the abdomen or the back. Experience has shown that the current should be gradually increased in strength, finally reaching from 40 to 80 ma, and the time of application should be from three quarters of an hour to one and a half hours The solidification is rapid and is generally manifest before the end of the electrical session through changes apparent to the eye and the hand in the pulsation and in the degree of consistence of the sac wall These changes become more decided in the course of a few days, until after a time in the most favourable cases a hard nodule with a communicated pulsation alone replaces the previous expansible tumour This was the history of 4 of the 10 cases now on record

THE MEDICAL DIRECTORY THE DISTRIBUTION OF THE MEDICAL PROFESSION

LAST week we mentioned the receipt of the Medical Directory for 1899, and we now proceed to give some details of the statistics contained in this valuable work of reference The whole number of practitioners for 1899 is 34,994—an increase over the figures for 1898 of 91 a very decided drop from the increase for 1898 over 1897, when the figures were 619 The practitioners included are distributed as follows, the numbers for 1898 being given in brackets —Number of practitioners in the London list, 6117 [6081], in provincial England, 15 497 [15,400], in Wales and Monmouth, 1100 [1081], in Scotland, 3394 [3412], in Ireland, 2551 [2615], resident abroad, 3795 [3770] Naval, military, and Indian medical services, excluding those who appear also in other lists, 2528 [2521], too late list, 12 [23] The deaths numbered 532 as against 599 in 1898, though of course this number is under the real amount for the year We see that Monmouth still continues to be included under Wales and in the list of London hospitals with medical schools the extraordinary alphabetical or rather non alphabetical arrangement is retained by which St Bartholomew's Hospital is put first as "Bartholomew's (St), while St George s, St Mary's, and St Thomas s are placed under the letter S The legal and other information is given with the usual accuracy, but we think something more might have been said about the working of the new Vaccination Act, for the new order was dated Oct. 18th There is so much that is good in the Directory that we only mention these failings with the wish to see future editions yet more perfect than the present one

TUBERCULOSIS IN LAMBETH WISE SUGGESTIONS BY THE MEDICAL OFFICER OF HEALTH.

DR JOSEPH PRIESTLEY, the medical officer of health of Lambeth, has presented to his vestry a report upon the nature and preventability of tuberculosis which contains the following wise suggestions —(1) That a circular letter be sent round to all the medical men in Lambeth pointing out that the vestry is prepared to disinfect free of cost all rooms with their contents recently occupied by patients suffering from tuberculosis, which have become unoccupied owing to the deaths or removals of such patients when requested to do so by the medical men or others in attendance, (2) that a circular letter be sent to the person or persons in charge of public institutions in Lambeth pointing out the nature of tuberculosis as a disease and the importance of having means adopted for the prevention of its spread and offering disinfection free of cost by the vestry's officers where it may be necessary; (3) that a circular letter be sent to the occupiers of those houses in which deaths from tuberculous disease are reported week by week to the medical officer by the Registrar General offering disinfection free of cost by the vestry, and (4) the issuing of leaflets pointing out in simple language the danger of the disease and the ready means at hand for its prevention to clergymen, district visitors, school teachers, and such persons who from their position may be expected to have opportunities for disseminating the information We commend Dr Priestley s suggestions and the action of his vestry in promptly adopting them *in toto* If the disinfection processes supplied gratis by the vestry of Lambeth are followed by proper cleansing, scraping, and whitewashing by the owners of the infected dwelling places we may expect a notable fall in the local mortality from phthisis, while the value to the community of a supply of sound reasons why they should take precautions themselves against the spread of disease cannot be readily over estimated

MAGISTRATE AND CORONER.

OUR readers will remember that recently an inquest was held by Mr Braxton Hicks on the body of a child aged seventeen weeks Mr James Jerome Mackay, acting on the coroner s warrant (which requires an examination of the viscera head, thorax, and abdomen), examined the remains and subsequently swore at the inquest that *in his opinion* death was due to congestion of the brain, presumably basing his judgment upon facts observed at the necropsy A second examination was conducted by Mr F C Kempster and Dr L S McManus, and these gentlemen testified at the adjourned inquest that "no proper examination of the body had been made, that the brain was not congested; and that death was due to asphyxia consequent on double pneumonia" Before calling upon Mr Kempster and Dr McManus for their evidence the coroner asked the jury for their opinion of the cause of death on the grounds furnished by Mr Mackay's testimony Mr Braxton Hicks cautioned Mr Mackay who adhered to his previous statement on oath The jury eventually found that death was due to asphyxia from lung disease thus practically avowing that they could not place reliance upon Mr Mackay s version of the facts and consequently upon his opinion. Mr Mackay was charged at the South Western police court with committing wilful and corrupt perjury, the Treasury prosecuting Mr Plowden, the presiding magistrate, treated Mr Braxton Hicks who detailed the circumstances of the inquest with scant courtesy, we might even say with contemptuous badinage This was unworthy of the learned magistrate seeing that by virtue of his office Mr Braxton Hicks has statutory magisterial powers We do not agree with Mr Plowden that the proceedings at the inquest were "eccentric" or that "all the ordinary landmarks in a court of justice were absent' A coroner's court is one of first instance and procedure therein is not ruled by the inflexible regulations as to the admission of evidence prevailing in a stipendiary s court We assert that Mr Braxton Hicks did not ask for two verdicts, for the request which he preferred to the jury before calling Mr Kempster and Dr McManus was simply a means of ascertaining the impression made upon the minds of the jury by Mr Mackay s evidence Mr Braxton Hicks knew what Mr Kempster and Dr McManus would swear to, and rightly, in our judgment, he sought to emphasise what he regarded as a gross dereliction of duty Mr Plowden in discharging the case described it as a question of divergent medical opinion, but Mr Mackay was charged with perjury—that is, with falsely swearing as to facts For the purpose of the prosecution it did not matter one iota whether the medical witnesses were agreed in opinion or not The real point at issue was whether Mr Mackay had performed the post-mortem examination properly and, if not whether he had sworn that he had We do not hesitate to say that if the testimony of Mr Kempster and Dr McManus was reliable perjury was undoubtedly committed We hold that Mr Braxton Hicks was in duty bound to take the course he did It was all nonsense for Mr Plowden to say that because all the organs should have been examined "if the child died from fracture of the brain it is the duty of the doctor to inspect the toes." Were such a statement made by counsel and not by a judge we should consider it as constituting an abuse of advocacy. It is of the highest importance that medical men should carry out with exactitude and integrity post-mortem examinations which are required in order that the cause of death may be ascertained. Neglect to do this might lead to serious failure of justice and would weaken a necessary safeguard to the community.

WITH the consent of Lord Kitchener a ward is to be endowed in the new Gordon Hospital at Khartoum in memory of the late Mr. T. W. M. Longmore, M.R.C.S. Eng., L.R.C.P. Lond., who was well known during the last ten years to travellers and invalids wintering in Egypt where he practised first on Messrs. Cook's Nile steamers and later at Luxor, in which place in addition to private practice he had charge of the Luxor hospital for natives. No more suitable memorial could have been chosen, as Mr. Longmore took the keenest interest in the question of hospital accommodation for sick natives. His personality was so charming that he made hosts of friends and the subscription list has already been liberally responded to, but the committee require to raise £500. The honorary secretary of the fund in this country is Dr. Barry Blacker, 15, West Eaton-place, to whom subscriptions should be sent.

IN the December number of the *Middlesex Hospital Journal* is a life-like reproduction from a portrait of Dr. Sidney Coupland by the mezzotinto-like process of the Swan Electric Engraving Company. As most of our readers know, Dr. Coupland has had to sever his connexion with the Middlesex Hospital in consequence of his appointment to the post of a Commissioner in Lunacy. It is fitting that the hospital which he has so long and honourably served should issue this portrait as a frontispiece to its *Journal* and as an embellishment to an appreciatory note which concludes: "We wish him a long and very happy career in his new field and feel sure that he will never forget nor lose interest in his many Middlesex friends, who certainly will never forget nor lose interest in their beloved and honoured teacher and colleague."

THE Council of the Royal Institute of Public Health have awarded the Harben Gold Medal for 1899 to Lord Lister, P.R.S., in recognition of his eminent services to preventive medicine; and they have appointed Professor William R. Smith, M.D. Aberd., D.Sc., F.R.S. Edin., as Harben Lecturer for the year 1899, who has chosen as the subject for his lectures "Diphtheria." We hope Professor Smith, who is medical officer to the London School Board, will explain his position as an unbeliever in the influence of the schools in the dissemination of diphtheria.

SIR GEORGE BIRDWOOD has retired from the India Office after a service period of more than forty years. He is best known for his extensive knowledge of the arts and crafts of India and for his organisation of various exhibitions, and we are glad to say that although he has retired the country will have the benefit of his services with regard to the forthcoming exhibition at Paris to be held next year. Sir George Birdwood is an M.D. of Edinburgh and has held important medical and scientific professorships at the Grant Medical College, Bombay.

ON the occasion of the jubilee of the St. Petersburg Academy of Medicine the following British medical men have been appointed honorary members of the Academy: Sir William MacCormac, Sir William Turner, Sir William Stokes, Dr. Thomson, Dr. Macewen, and Dr. Lauder Brunton. Lord Rayleigh received the same honour.

MR. THOMAS TOWNSEND BUCKNILL, Q.C., who has been appointed a Judge of the High Court in the room of Sir Henry Hawkins resigned, is the second son of the late Sir J. C. Bucknill, M.D. Lond., F.R.S., of East Cliff House, Bournemouth, well known as a psychologist and as a pioneer of the volunteer movement.

SIR SQUIRE BANCROFT will tell the story of Charles Dickens's "Christmas Carol" at St. Martin's Town Hall on Thursday afternoon, Jan. 12th, at 3 o'clock, in aid of the Royal London Ophthalmic Hospital. Tickets can be obtained from the Secretary, Royal London Ophthalmic Hospital, Moorfields, E.C.

THE Inebriates Act, 1898, came into operation on Jan. 1st, 1899. It is stated that circulars will be issued from the Home Office to explain the objects of the Act. We hope in a future issue to deal at length with this important subject.

THE January number of the *Quiver* contains an article on Great Anniversaries in January by the Rev. A. R. Buckland and among the calendrical reminiscences is a note on the establishment of the Hospital Sunday Fund. The author calls to mind the fact that "From the year 1869 to the year 1872 the late Dr. James Wakley, Editor of THE LANCET, urged the establishment of such a fund; but it was not until Jan. 16th, 1873, that the meeting which gave birth to the movement was held in the Mansion House. Sir Sydney Waterlow was Lord Mayor that year and he became the first treasurer and president of the Fund." The note is accompanied by a capital likeness of the late Dr. James Wakley and also by one of Sir Sydney Waterlow.

SIR JAMES REID, Bart., K.C.B., has been appointed by the Prince of Wales a Physician-in-Ordinary to His Royal Highness, vice Sir William Jenner, Bart., G.C.B., recently deceased.

LADY CURZON of Kedleston is to become the President of the Marchioness of Dufferin's fund for providing medical aid for the women of India.

THE North London Hospital for Consumption and Diseases of the Chest has received a donation of £3000 from "A Lady."

A SPLENDID New Year's gift has been received by the committee of the Bromley (Kent) Cottage Hospital, in the shape of a donation of £4000 for the endowment in perpetuity of the "Jamie Wheeler-Bennett" children's ward of the hospital. The gift is from Mr. J. Wheeler Bennett of Ravensbourne, Keston, Kent, a member of the committee of the hospital, and already one of the most liberal supporters of this and other charities in the neighbourhood. The ward has accommodation for 6 children's cots and with the growing demands on the accommodation of the hospital this provision for the children's ward will be a great relief to the committee who have a large institution of 32 beds in all to maintain, being the largest institution of its kind in the kingdom.

FATAL ACCIDENT.—Mrs. Bowen-Jones, the wife of Mr. L. M. Bowen-Jones, the medical officer of health of the Carmarthen Combined Rural Districts, was thrown out of a carriage on Christmas Day and fractured the base of her skull. She died the same evening. At the inquest a verdict was returned in accordance with the evidence and a vote of sympathy with Mr. Bowen-Jones was passed.

THE LANCET
Analytical Commission
ON
SOME LEADLESS GLAZES

LEAD poisoning in the potteries proceeds apace, and must do so until, as we have remarked before in these columns,[1] the Home Office takes one of two courses—either prohibits the use of raw lead, or by suitable regulations makes the introduction of harmless glazes a paying or practicable affair for the manufacturer How urgently prompt and effective legislative action is needed is evident when we consider that under the new Act of 1895 the returns for the year 1896 showed 387 cases of lead poisoning from the potteries, and further statistics show a decided increase upon this number English pottery work and English pottery products stand first in the world It is a terrible stigma, however, upon this position that in some branches at least this excellence is attained at the expense of so much human suffering

The seat of the mischief, as everyone knows, is lead, and the question to be decided is whether raw lead can be made harmless, or dispensed with altogether To make raw lead harmless it has been suggested to fuse it first with borax, silica, &c —a process technically termed "fritting '—but clearly this preliminary precaution involves the handling of raw lead in the preparatory stage The risk, however, of lead poisoning would be thus considerably lessened where it now most occurs—that is, in the cases of those whose business it is to grind the "frit into powder and to dip the ware in the glaze subsequently prepared The lead in a "frit ' is much less soluble in the gastric juice than is raw lead and the evil effects of absorption of lead during both the grinding and dipping processes would be largely avoided by the adoption of "fritted lead

In an article published in THE LANCET of May 14th, 1898, we had occasion to sum up the opinions of manufacturers as to the practicability of substituting "fritted" lead for raw lead and the balance of opinion seemed to be decidedly in favour of the former Amongst these opinions the following are worthy of observation "'Fritted' lead is as consistent with practical pottery as using the lead as in the raw state, it is an easier flux than raw lead and can be used universally without injury to the trade, it does better for colours and increases the brilliancy of the ware, and, finally (according to the evidence of an employé in one of the largest pottery firms), not a single case of lead poisoning had been known where all the lead was 'fritted'"

We next turn to the possibility of doing away with lead altogether Obviously, could this be done without interfering with the peculiar and delicate requirements of the art of glazing we might confidently hope for a speedy and satisfactory solution of a very difficult question An enormous number of laborious experiments have been made on this promising side of the subject, with the result we may hope that the introduction and adoption of practicable leadless glazes will become before long an accomplished fact But obviously nothing short of the evidence of experience can be expected to satisfy the industry on all points As a small, though we think encouraging and instructive, contribution to the question we now offer the results of some experiments which we ourselves have made with certain leadless glazes in THE LANCET Laboratory during the last month We cannot, of course lay claim to the possession of practical knowledge or judgment in this matter Our interest in the question is necessarily a limited one but it is a vital interest, the points at issue affecting the well being of those engaged in a beautiful but at present dangerous art

Our attention was recently drawn to the important results of a great number of arduous experiments directed to the practicability of producing leadless glazes which were undertaken by one who has spent much of his time in the potteries and who has an extensive practical acquaintance with the industry These results have been published by the author,[2] Mr William J Furnival, the failures as well as successes being wisely recorded Some of the successes are illustrated in specimens placed on view, by permission of the Science and Art Department in the Geological Museum in Jermyn-street By the courtesy of Mr Furnival we have obtained some specimens of the glaze and of the wares finished by its means They consisted of various types, such as saucers, cheese plates, dessert plates, plaques &c, all of which we have examined, tested, and submitted to experiment

No 1 was a leadless glaze marked No 2855 and described as having been used in the dipping of all the samples of ware marked 2855 Examined for lead this glaze gave absolutely negative results Borax was an important constituent When tried on "biscuit" in the oxyhydrogen flame a clear uniform glaze resulted

The second specimen was a saucer one half of which was glazed with lead glaze and the other half with leadless glaze This appeared to us to be a perfectly successful demonstration of the practicability of using leadless glaze In appearance the leadless glaze was in every way as good as the lead glaze Careful chemical tests showed the presence of lead in the one case and the absence of lead in the other

The specimen taken as a third example was a dessert-plate with coloured pattern and gold border. The glaze was excellent and was free from lead

These examples will suffice but we may add that we have examined and tested in all fourteen pieces[3] with satisfactory results The lead was tested for in two ways First, on a portion of the plate a mixture of carbonate of soda and potash was fused before the flame of a powerful blowpipe The melted mass after cooling was washed off in hot dilute hydrochloric acid and sulphuretted hydrogen was passed through the solution There was never any indication of lead in the glazes marked "leadless" As a check on this test the plate was afterwards sprinkled with powdered fluorspar and moistened with strong sulphuric acid and gently warmed The glaze was thus attacked by the hydrofluoric acid generated and the lead, if present, would be liberated from the flux The plate was next flooded with water and sulphuretted hydrogen was passed through the liquid This test answered very well with ordinary lead glazed ware but in no case gave any positive response with the leadless glazed ware so described and placed at our disposal by Mr Furnival

We consider that these results are of the utmost importance for they indicate the probability of satisfactorily substituting absolutely leadless glaze for the old lead veneer without detriment to the beauty and finished appearance of the product It seems to us, therefore, that the ground should be perfectly clear for action by the Home Office Either leadless glazes are practicable or they are impracticable It is for a committee of experts to decide one way or the other with the evidence of practical trial before them. There is no proprietary right whatever connected with the use of these glazes Their formulæ are published and fair practical trial and criticism are invited We understand that already some large pottery manufacturers and others with a considerable experience of the industry have tried these leadless glazes on a practical scale with excellent results

It may be hoped, then, that the day is not far distant when the Government will be in a position to demand the abolition of raw lead in glazing and to compel the adoption of safe "frits' or, better still, leadless glazes, without inflicting any hardship on the potter or causing any hindrance to the pursuit of his art The alternative is to bring lead poisoning under the Workmen's Compensation Act

THE LANCET Laboratory

THE METROPOLITAN WATER-SUPPLY: THE PROPOSED BATTERSEA INTER-COMMUNICATION SCHEME

IN October, 1897, the engineers of the metropolitan water companies proposed a scheme to make interchangeable connexions between the mains of the several companies This scheme was submitted to Lord Llandaff's Commission At a meeting held on Oct 24th of the present year by the engineers of the metropolitan water companies a second report was made and a new scheme was drawn up This is called Scheme No. 2. Sir Henry Knight, chairman to the Southwark and Vauxhall Company, in giving his evidence proposed a scheme differing somewhat from both the schemes just mentioned. This is called Scheme No. 3. The second scheme is the one which is here described. A diagram is given showing the proposed trunk mains. The scheme will be best understood by a study of this map in connexion with the evidence given by Mr. Collins of the outline of the scheme. Mr. Collins's evidence, given at the thirty-fifth sitting of the Royal Commissioners, was as follows :—

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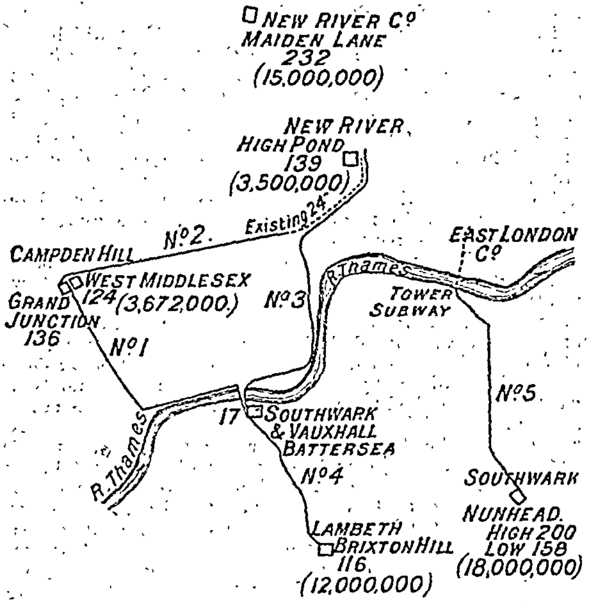
[1] THE LANCET Nov 19th 1898

[2] This book ("Researches on Leadless Glazes") was reviewed in THE LANCET of Nov 19th 1898

[3] We shall be pleased to show these specimens as tested in THE LANCET Laboratory to those of our readers who are interested in the subject and who for that purpose will kindly write to us requesting an appointment

PLAN SHOWING PROPOSED TRUNK MAINS TO BE MADE IN THE "BATTERSEA SCHEME (NO. 2)."



Nos. 1, 2, 3, and 4 are the proposed *new* trunk mains for the supply of water from the Southwark and Vauxhall Company's Battersea station. The figures in brackets give the capacities of the reservoirs in gallons. The figures immediately under the names of the reservoirs give the height in feet above Ordnance datum at which the reservoirs are situated.

"The idea is to take the Battersea works as a centre. These works are capable of filtering 15,000,000 gallons a day with pumping power for 25,000,000 gallons a day. That being the case it would be possible by the running of certain mains to make a distribution between all the companies which would be available not from any one company to any other company, but from all the companies to any one company. That would necessitate the laying of certain mains. If you will refer to the plan attached to the scheme you will see there is a main put down as No. 1. That is the line between Battersea and Campden-hill. That is what we call No. 1 connexion, and that would enable water in the first instance to be taken from Battersea to Campden-hill direct. That main would be the means of assisting the Grand Junction Company to a quantity equal to 10,000,000 gallons per day from Battersea, and would also be available for passing water back from Campden-hill to Battersea in case the assistance is required for other companies. No. 2 connexion upon the plan consists of a main between the Campden-hill reservoir and the New River head. That main is already partially laid. No. 2 connexion, which would enable the Grand Junction Company to pass water from their Campden-hill reservoirs into the New River, would be for the assistance of the New River Company; and at the same time it could receive assistance from Battersea into Campden-hill, so it would be a circulation round from one company to another. Then, again, for the assistance of the New River Company it is suggested that main No. 3 should be laid. That would enable the Southwark and Vauxhall Company to pass 10,000,000 gallons a day through to the New River Company. No. 4 main would enable the Battersea centre to deliver water to Brixton; and No. 5 main is the main which is already partially made under the river and would enable the Southwark and Vauxhall Company, without interference with the present supply, to give a suitable quantity to the East London Company. With these means of connexion as set forth in what we call No. 2 scheme a complete circuit of connexions is formed—that is, a system by which almost 20,000,000 gallons a day can be provided for any one company in case that company is in trouble in case of an emergency. We have set forth in this No. 2 report a list of the mains and connexions which we say might be made. We do not bind *ourselves that this is the only scheme that might be adopted*; it is subject to alteration if necessity requires. After those connexions we give you the proposed quantity of water that could be delivered to any one company from the different sources. We take first of all the Chelsea as the receiving company, and we say that through the main No. 1 we could by making a connexion pass water to the Chelsea Company either from Battersea or from Campden-hill. Assistance could be rendered to this company, we say, through connexions with main No. 1."

The details of the scheme are as follows. The trunk mains which will have to be made are :—

No. 1. A 30 in. main from Battersea Works to Campden-hill, about 6380 yards in length.

No. 2. A 24 in. main from Campden-hill to Poland-street, about 5100 yards.

No. 3. A 30 in. main from Battersea Works to the "Angel," Islington, in connexion with the New River Company's Crouch-hill system, about 8800 yards (providing for duplication across the Thames).

No. 4. A 30 in. main from Battersea Works to Brixton-hill, about 3960 yards.

No. 5. A 30 in. main from Nunhead reservoir to the Tower subway, about 5700 yards.

No. 6. A 21 in. main from Hammersmith to Campden-hill to enable the West Middlesex Company to deliver 3,000,000 gallons per day into Campden-hill reservoir.

No. 7. A 24 in. main, about four miles in length, to enable the Grand Junction Company to deliver 3,000,000 gallons per day extra into Campden-hill reservoir.

The following connexions would also have to be made :—

1. A connexion between the West Middlesex Company's main in the vicinity of Campden-hill and the Grand Junction Company's Campden-hill reservoir.
2. A connexion at Raynes Park between the 42 in. main of the Southwark and Vauxhall Company and the two 30 in. mains of the Lambeth Company.
3. A connexion at Leigham Court-road, Streatham, between the 21 in. main of the Lambeth Company and the 42 in. main of the Southwark Company.
4. A connexion at Kennington-gate between the 20 in. and 24 in. mains of the Lambeth Company and the 30 in. and 24 in. mains of the Southwark Company.
5. A connexion at Manor-park, Streatham, between the Streatham works of the Southwark Company and the 12 in. main of the Lambeth Company.
6. A connexion between the 12 in. main of the Lambeth Company in Park-road, Forest-hill, and the 12 in. main of the Kent Company in High-street, Lewisham.
7. A connexion between the 12 in. main of the Lambeth Company at Beckenham and the 12 in. main of the Kent Company at Shortlands.
8. A connexion at Peckham between the 16 in. main of the Kent Company and the 20 in. main of the Southwark Company.
9. A connexion at Upper Richmond-road, Putney, between the 24 in. main of the Chelsea Company and the 30 in. and 36 in. mains of the Southwark Company.
10. A connexion at London-road, Kingston, between the 42 in. main of the Southwark Company and the 30 in. and 24 in. mains of the Chelsea Company.
11. A connexion at Surbiton between the 30 in. main of the Lambeth Company and the 30 in. main of the Chelsea Company.
12. A connexion at Kingston-hill between the two 12 in. mains of the Lambeth Company and the 30 in. and 15 in. mains of the Chelsea Company.

The following connexions which already exist would also be utilised :—

1. A connexion by which the Grand Junction Company can pump directly into the mains of the East London Company and *vice versâ*.
2. An arrangement by which water can be delivered by the East London Company to the New River Company from their 30 in. main in Seven Sisters-road into the New River.

The proposed mains of intercommunication would approximately be as follows :—

RECEIVING COMPANY—THE CHELSEA.

	Gallons per day.
Assistance could be rendered to this company through connexions with Trunk Main No. 1 crossing 24 in. mains of the Chelsea Company, by which water could be delivered from the Battersea centre to the extent of...	10,000,000

Failing this, 10,000,000 gallons could be delivered from Campden-hill by means of these connexions, the Grand Junction Company contributing 3,000,000 gallons, the West Middlesex Company 3,000,000, and the New River Company 4,000,000.

Further assistance could be rendered to the Chelsea

Company by connexions Nos. 9, 10, and 11, which provide for an interchange of water between the Southwark and Chelsea and Lambeth and Chelsea Companies.

RECEIVING COMPANY—EAST LONDON.

Assistance could be rendered to this company as follows:—

	Gallons per day.
From the New River Company at Lee intake ...	6,000,000
From the Grand Junction Company, 3,000,000 gallons, and from the West Middlesex Company, 3,000,000 gallons; total delivered at New River Head to be passed on to East London Company by Lee intake	6,000,000
From the Southwark Company per Tower Subway Trunk Main No. 5 supported from Battersea centre	8,000,000
Total	20,000,000

Further assistance could be rendered to the East London Company by the existing connexion with the Kent Company at Blackwall to the extent of 500,000 gallons per day.

The Chelsea and Lambeth Companies, in the event of failure of the foregoing proposals, by means of connexions Nos. 9, 10, 2, 3, 4, and 5 could assist the Southwark Company, which in turn could assist the East London Company with water so provided.

RECEIVING COMPANY—GRAND JUNCTION.

Assistance could be rendered to this company as follows:—

	Gallons per day.
From New River Company per Trunk Main No. 2	6,000,000
From West Middlesex Company	3,000,000
From Battersea centre per Trunk Main No. 1	10,000,000
Total	19,000,000

RECEIVING COMPANY—KENT.

	Gallons per day.
Assistance could be rendered by means of connexions Nos. 6 and 7 from the Lambeth and No. 10 from the Southwark Company to the extent of, say	4,000,000

This in turn could be supplemented from Battersea centre.

RECEIVING COMPANY—LAMBETH.

	Gallons per day
Assistance could be rendered from Battersea centre per Trunk Main No. 4 to the extent of	10,000,000
From the Grand Junction Company per Trunk Main No. 1 from Campden-hill direct to *Brixton*	3,000,000
From West Middlesex Company per Trunk Mains Nos. 1 and 4	3,000,000
From New River Company *via* Campden-hill	4,000,000
Total	20,000,000

This could be supplemented from the Chelsea Company by connexions Nos. 11 and 12 and from the Kent Company by Nos 6 and 7.

RECEIVING COMPANY—NEW RIVER

	Gallons per day.
Assistance could be rendered to this company from Grand Junction Company per Trunk Main No. 2	3,000,000
From West Middlesex Company per Trunk Main No. 2	3,000,000
From Battersea centre per Trunk Main No. 3	10,000,000
Further assistance could be rendered by the East London Company through the existing connexion with the New River at Seven Sisters-road to the extent of	4,000,000
Total	20,000,000

RECEIVING COMPANY—SOUTHWARK AND VAUXHALL.

Assistance could be rendered to this company as follows:—

	Gallons per day.
From the Battersea centre	10,000,000
From the New River, West Middlesex, and Grand Junction Companies, per Campden-hill	10,000,000
Total	20,000,000

Assistance could also be given by the Lambeth and Chelsea Companies by means of connexions Nos. 2, 3, 4, 5, 9, and 10.

RECEIVING COMPANY—WEST MIDDLESEX.

Assistance could be rendered to this company as follows:—

	Gallons per day.
From New River Company, per Trunk Main No. 2	6,000,000
From Grand Junction Company	3,000,000
From Battersea centre, per Campden-hill	10,000,000
Total	19,000,000

Further assistance could be given from the New River Company by the existing connexions at Tottenham Court-road and at Euston-road.

Upon the supposition that the Battersea works can be made available, the terms upon which they might be utilised would have to be arranged between the eight confederated companies.

The provision of a 36-in main from Hampton to Battersea would make Battersea a permanent centre This main could not be laid before next summer, but the existing one would be sufficient until its completion.

THE MIDWIVES BILL.

THE Memorandum of the new Midwives Bill, which it is intended to introduce into Parliament next Session, runs as follows:—

The chief object of this Bill is to carry into effect the recommendations of the Select Committee of the House of Commons relating to the training and practice of midwives by promoting the training of women as midwives and by providing for the regulation of their practice.[1] This Bill provides that henceforth no woman shall call herself, or habitually practise for gain as, a midwife unless she has obtained a licence, and that, in order to be licensed, she must *inter alia* produce evidence either (1) of having undergone a proper training and subsequent examination, or (2) of having (at the time of the passing of the Bill) been in *bonâ fide* practice as a midwife. The Bill does not render it illegal for any person to render assistance to a lying-in woman in an emergency. A Central Midwives Board is constituted under this Bill whose chief duties will be (1) to organise examinations of a uniform standard; (2) to regulate, supervise, and restrict within due limits the practice of midwives; and (3) to investigate charges of malpractice, negligence, or ignorance against midwives.

The Bill is drafted on the lines of that introduced last year, but the following alterations have been made in view of the requirements of the *General Medical Council*[2]:—(1) Licensing is substituted for registration; (2) the habitual practice of midwifery for gain by women not licensed under this Bill is rendered illegal; and (3) the area within which a midwife may practise is, in order to facilitate supervision, limited to that of the local supervising authority from whom she has obtained a certificate authorising her to practise.

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[1] See Reports of Select Committee on Midwives Registration together with the Proceedings of the Committee, Minutes of Evidence, Appendix, and Index ordered by the House of Commons to be printed June 17th, 1892, and August 8th, 1893

[2] See report by the committee appointed by the General Medical Council on May 25th, 1898, to confer with delegates from the Midwives Bill Committee, together with an appendix containing a report of the proceedings at the Conference (adopted by the General Medical Council, Nov. 29th, 1898).

Draft Copy of the Midwives Bill.

A Bill to Promote the Better Training of Women as Midwives and to Regulate their Practice.

Be it enacted by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1. This Act may for all purposes be cited as the Midwives Act, 1899.

2. In this Act, the term "midwife" means a woman who undertakes for gain to attend women in child-birth. "Midwives Roll" means a roll of midwives kept in pursuance of this Act. "Central Midwives Board" means the Board constituted under this Act for the purpose of carrying out the provisions of this Act.

3.—(1) From and after the first day of January, one thousand nine hundred, no woman shall be entitled to take or use the name or title of midwife (either alone or in combination with any other word or words) or any name, title, addition, or description implying that she is licensed under this Act or is qualified to act as a midwife unless she be licensed under this Act. (2) Any woman who, after the first day of January one thousand nine hundred, not being licensed under this Act, shall take or use the name of midwife or any other such name, title, addition, or description as aforesaid, or shall habitually and for gain attend women in child-birth shall be liable on summary conviction to a fine not exceeding five pounds. (3) No woman shall be licensed under this Act until she has complied with the rules and regulations to be laid down in pursuance of the terms of this Act. (4) The licence under this Act shall not confer upon any woman any right or title to be registered under the Medical Acts or to assume any name, title, or designation implying that she is by law recognised as a medical practitioner or that she is qualified to grant any medical certificate.

4. Any woman who, within two years of the passing of this Act, claims to be licensed under this Act shall be so licensed provided she holds a certificate in midwifery from the Royal College of Physicians of Ireland or from the Obstetrical Society of London or such other certificate as may be approved by the Central Midwives Board, or produces evidence, satisfactory to the Board, of character, and that at the passing of this Act she has been in bonâ-fide practice as a midwife.

5. On the passing of this Act the President of the General Medical Council shall take steps to secure the election of a Central Midwives Board which shall consist of:—(1) Four registered medical practitioners, one to be elected by the Royal College of Physicians of London, one by the Royal College of Surgeons of England, one by the Society of Apothecaries, and one by the Incorporated Midwives Institute; and (2) two persons to be appointed for terms of three years by the Lord President of the Council. After two years from the passing of this Act the elected members shall retire but shall be eligible for re-election annually. Any vacancy occurring by resignation or death shall be filled up in the case of an elected member by the body which elected him, and in the case of an appointed member by the Lord President of the Privy Council. (3) The duties of the Board shall be as follows:—

I.—*To frame rules, for approval by* the General Medical Council, (*a*) regulating the issue of licences and the conditions of admission to the roll; (*b*) regulating the conduct of qualifying examinations; (*c*) regulating the admission to the roll of women already in practice as midwives at the passing of this Act; (*d*) regulating, supervising, and restricting within due limits the practice of midwives.

II.—(*a*) To appoint examiners; (*b*) to decide upon the places where and the times when examinations shall be held; (*c*) to publish annually a roll of midwives who have been duly licensed under the Act; (*d*) to decide upon the conditions under which midwives may be suspended from practice; (*e*) to decide upon the removal from the roll of the name of any midwife for disobeying the rules and regulations from time to time laid down under this Act by the Central Midwives Board, or for other misconduct, and also to decide upon the restoration to the roll of the name of any midwife so removed; (*f*) to issue licences.

III.—And generally to do any other act or duty which may be necessary for the due and proper carrying out of the provisions of this Act.

6. There shall be payable by every woman presenting herself for examination or licence such fees as the Central Midwives Board may, with the approval of the General Medical Council, from time to time determine. All fees paid by existing midwives and by candidates for examination shall be paid to the Central Midwives Board. The said Board shall devote such fees to the payment of expenses connected with the examination and licence and to the general expenses of the Board. Should these fees not equal the expenditure of the Board the deficiency shall be supplied from the respective local administrative county funds in proportion to the number of licensed midwives in the said county.

7. There shall be a Midwives Roll containing: (1) the names of those midwives practising at the date of the passing of the Act who have been licensed to practise under the Act; (2) the names of those not already in practice as midwives at the passing of the Act but who have been licensed to practise under the Act. The entry on the roll shall in every case indicate the qualifications in virtue of which the licence was granted.

8. The Central Midwives Board shall appoint a secretary who shall be charged with the custody of the roll. A copy of the midwives roll for the time being shall be evidence in all courts that the women therein specified are licensed according to the provisions of this Act; and the absence of the name of any woman from such copy shall be evidence, until the contrary be made to appear, that such woman is not licensed according to the provisions of this Act. Provided always that in the case of any woman whose name does not appear in such copy a certificate under the hand of the secretary of the entry of the name of such woman on the roll shall be evidence that such woman is licensed under the provisions of this Act.

9. Every administrative county council throughout England and Wales shall, on the passing of this Act, appoint its medical officer of health or other registered medical practitioner or practitioners, as the local supervising authority over midwives within the area of the said county. It shall be the duty of the local supervising authority: (1) To exercise general supervision over all midwives practising within the prescribed area in accordance with the rules to be laid down under the provisions of this Act. (2) To investigate charges of malpractice, negligence, or misconduct on the part of any midwife practising within his district, and if he consider that a *primâ facie* case is established to report the same to the Central Midwives Board. (3) To suspend any midwife from practice, in accordance with the rules to be laid down by the Central Midwives Board, if he considers such suspension necessary to prevent the spread of infection. (4) To report at once to the said Board the name of any midwife practising in his district convicted of a misdemeanour or felony. (5) During the month of January of each year to supply the secretary of the Central Midwives Board with the names and addresses of all midwives practising in his district and to keep a current copy of the midwives roll accessible at all reasonable times for public inspection. (6) To report at once to the Central Midwives Board the death of any midwife or any change in the name or address of any midwife in his district so that the necessary alteration may be made in the roll.

10. A woman who holds herself out as a practising midwife in any administrative county shall obtain from the local supervising authority a certificate enabling her to practise therein, which certificate shall be granted on proof by the woman that her name is on the midwives roll. The certificate shall remain in force till the thirty-first of December following, and shall be revocable at any time by the local supervising authority in case the holder be proved, to the satisfaction of the Central Midwives Board, to have infringed any of the *regulations* framed under this Act. The certificate shall be renewed annually in the month of January. It shall be issued free of charge and shall only be available in the county for which it is issued.

11. (*a*) Any woman who procures or attempts to procure a licence by making or producing, or causing to be made or produced, any false or fraudulent declaration, certificate, or representation, either in writing or otherwise, and any person assisting her therein, shall be deemed guilty of a misdemeanour, and shall on conviction thereof be liable to a fine not exceeding £5, or to be imprisoned, with or without hard labour, for any term not exceeding two months. (*b*) Any woman who, after the first day of January, one thousand nine hundred, shall hold herself out as a practising midwife or shall practise in any administrative county without having previously obtained from the local supervising authority a certificate *enabling her to practise therein* shall be deemed guilty of a misdemeanour and shall, on conviction thereof, be liable to a fine not exceeding two pounds or to be imprisoned, with or without hard labour, for any term not exceeding one month. (*c*) But a midwife shall not be guilty of a misdemeanour under this section by attending, on an emergency, a woman in childbirth in a county other than that for which she holds a certificate; provided she has within a reasonable time given notice of having so acted to the local supervising authority of that county.

12. Any person appointed to keep the roll of midwives, wilfully making or causing to be made any falsification in any matter relating to the roll of midwives shall be deemed guilty of a misdemeanour and shall be liable to a fine not exceeding ten pounds, or to be imprisoned with or without hard labour for any term not exceeding three months.

13. Any offences under this Act punishable on summary conviction may be prosecuted, and any fine under this Act recoverable on summary conviction may be recovered, in manner provided by the Summary Jurisdiction Acts. The expenses of any prosecution shall be defrayed out of the funds of the county in which the prosecution takes place.

14. (1) An appeal shall be allowed to the Privy Council should any disagreement arise between the General Medical Council and the Midwives Board respecting the carrying out of the provisions of the Act or of any of them; (2) where any woman deems herself aggrieved by any order, conviction, judgment, or *determination* of or by any matter or thing done under this Act by any court of summary *jurisdiction*, such woman may appeal therefrom to the court of quarter sessions.

15. Nothing in this Act respecting midwives shall apply to legally qualified medical practitioners.

16. This Act shall not extend to Scotland or Ireland.

THE PRINCE OF WALES'S HOSPITAL FUND FOR LONDON.

THE Honorary Secretaries of this Fund have kindly forwarded to us the following report of the Prince of Wales's Hospital Fund for the year:—

With the approval of His Royal Highness (the President) the operations of the Fund have this year been limited to those hospitals lying within a radius of seven miles from Charing-cross which applied for a grant within the stated time in answer to the advertisement inserted in the metropolitan journals. In the preliminary consideration of these applications the Visiting Committee received great help from the Central Hospital Council for London. Of those hospitals which applied and whose claims were considered all but 12 received grants. Of these 12 some were deemed by their existing income and by the grants already received from the Sunday and Saturday Funds to be this year adequately provided for. Others, though excellent institutions, did not appear to be hospitals in the strict sense; a few more were, by reason of their management, ruled to be undeserving of support. The 100 dozen pints of champagne presented by Messrs. Charles Heidsick have been stored by Messrs. Thomas Trapp and Sons, who have undertaken to deliver them to the various hospitals free of cost. This wine is divided among the hospitals receiving grants approximately in proportion to the number of beds occupied, exclusive of pay beds. The details of the grants for this year are appended below:—

Grants Recommended by the Distribution Committee.

Name of Hospital.	Grant.	
	Annual.	Donation.
	£	£
[1] London Hospital	5000	—
[1] Guy's Hospital	5000	—
[1] St. Thomas's Hospital	1500	—
[1] Middlesex Hospital	1000	—
[1] St. Mary's Hospital	1000	—
[2] King's College Hospital	1000	475
[3] Westminster Hospital	750	—
[3] University College Hospital	1400	—
[3] Charing-cross Hospital	1000	—
[3] Royal Free Hospital	750	—
[3] Seamen's Hospital	500	—
[4] Hospital for Consumption, Brompton	—	500
[5] Hospital for Sick Children, Great Ormond-street, W.C.	500	—
[5] City of London Hospital for Diseases of the Chest, Victoria-park, E.	1000	—
[5] National Hospital for the Paralysed and Epileptic	750	—
Metropolitan Hospital	—	500
[6] Great Northern Central Hospital	750	—
German Hospital	—	150
[7] London Temperance Hospital	—	500
[8] West London Hospital	—	500
French Hospital	—	100
West Ham Hospital	—	250
North West London Hospital	—	300
Mildmay Mission Hospital	—	250
[9] Bolingbroke Hospital	—	250
Miller Hospital	—	200
Memorial Cottage Hospital	—	50
[10] Establishment for Gentlewomen, Harley-street	—	75
St. Saviour's Hospital, Osnaburgh-street	—	50
Royal Hospital for Diseases of the Chest, City-road	—	100
[11] North London Hospital for Consumption	1000	—
[12] East London Hospital for Children	—	250
Alexandra Hospital for Children	—	500
[13] North Eastern Hospital for Children	—	250
Paddington-green Hospital for Children	—	150
Royal Hospital for Children and Women	—	100
[14] Samaritan Free Hospital	—	500
[15] Grosvenor Hospital for Women and Children	—	100
Hospital for Women, Soho-square	—	350
Chelsea Hospital for Women	—	300
Queen Charlotte's Hospital	—	300
British Lying-in Hospital	—	50
[16] Royal London Ophthalmic Hospital	—	450
[17] London Lock Hospital (Female)	—	500
St. Peter's Hospital for Stone	—	50
London Homœopathic Hospital	—	200
Total	23,200	8,300

COMMITTEE'S RECOMMENDATIONS.

[1] The Committee recommend that the grant be made on the same conditions as last year's.

[2] The Committee recommend that the annual grant of £1000 be continued and that a special grant of £475 be made towards reflooring the wards.

[3] The Committee recommend that the annual grant be continued on the same conditions as last year's.

[4] The Committee recommend that this grant be made towards the cost of the proposed country branch and convalescent home on condition that the balance of the estimated cost is provided and the work put in hand without any avoidable delay.

[5] The Committee recommend that this grant be made in order to provide for the reopening of 15 of the 60 beds now closed.

[6] The Committee recommend that this grant be made on condition that 15 of the 25 beds now closed are opened.

[7] The Committee recommend that this grant be made on condition that the further sum necessary to open the closed ward (12 beds) is raised and the ward opened.

[8] The Committee recommend that this grant be made in the expectation that the overcrowding in the old wards will be abolished and that the suggestions of the Visitors be communicated to the hospital authorities.

[9] The Committee recommend that this grant be made towards the cost of a new accident ward on condition that the balance of the estimated cost is provided and the work put in hand without any avoidable delay.

[10] The Committee recommend that this grant be made only on the understanding that a properly constituted committee is elected forthwith.

[11] The Committee recommend that this grant be made on condition that 15 out of the 20 beds now closed are opened.

[12] The Committee recommend that this grant be made towards a new operating theatre.

[13] The Committee recommend that this grant be made in anticipation of improvements being made in the directions indicated by the Visitors.

[14] The Committee recommend that attention be called, in making the grant, to the overcrowded state of the out-patient department, and that the suggestion be made that it might temporarily be remedied by the children as out-patients being referred to children's hospitals.

[15] The Committee recommend that attention be called in making this grant to the high cost per in-patient per week.

[16] The Committee recommend that attention be called in making this grant to the substance of the Visitors' recommendations.

[17] The Committee recommend that this grant be made on the understanding that the amount necessary for the reconstruction of the drainage of the hospital be provided and the work put in hand without any avoidable delay; and that the overcrowding in wards Nos. 1, 5, 7, 8, 9, and 10 reported by the Visitors be abolished.

Grants Recommended by Convalescent Hospitals Committee.

Metropolitan Convalescent Institution, 32, Sackville-street, Piccadilly, W.	£200
Morley House Seaside Convalescent Home, St. Margaret's Bay, Dover	200
Mary Wardell Convalescent Home, Stanmore, Middlesex	100
Royal Sea Bathing Hospital, Margate	100
Charing-cross Hospital, Convalescent Home at Limpsfield	50
Chelsea Hospital for Women, Convalescent Home at St. Leonards-on-Sea	50
East London Hospital for Children, Convalescent Home being erected at Bognor	50
King's College Hospital, Convalescent Hospital, Hemel Hempstead	50
Middlesex Hospital, Convalescent Home at Clacton-on-Sea	50
National Hospital for Paralysed and Epileptic, Convalescent Home at East Finchley	50
Queen Charlotte's Hospital, Convalescent Home at Kilburn	50
Metropolitan Hospital, Convalescent Home at Cranbrook	25
Paddington Green Children's Hospital, Convalescent Home at Harrow	25
	£1,000

Summary.

Grants to Hospitals	£31,500
Grants to Convalescent Hospitals	1,000
Grand Total	£32,500

Thus the £32,500 distributed this year is shared by 59 hospitals and convalescent homes. The result is that in addition to supplying other specified needs 57 more closed beds will be reopened, making with 185 reopened last year in all 242 closed beds not only reopened but maintained through the Fund.

THE BATTLE OF THE CLUBS.

MEDICAL AID ASSOCIATIONS AND PROFESSIONAL SWEATING.

FOR about six months clubdom in Wigan has been agitated to some extent owing to the action of the Medical Guild. Before the Workmen's Compensation Act came into operation the members of the guild unanimously adopted the following rules:—

1. That no member of the guild shall attend trade accidents in connexion with friendly society sick clubs. By "trade accident" is meant "any injury sustained by a workman whilst following his usual occupation."
2. That the minimum fee for attendance on any sick and accident clubs shall be 5s. per head per annum—i.e., 2s. 6d. for sickness and 2s. 6d. for accident.
3. That the fees charged for examination and report in cases proceeding to arbitration under the Workmen's Compensation Act, 1897, be the same as allowed by the Treasury.[1]
4. That the minimum fee for a preliminary report upon any accident under the Workmen's Compensation Act, 1897, be 1 guinea.

These rates are surely low enough, yet we find that some of the friendly societies took exception to this, although they generally admitted that the miner had made provision for his accidents in the Lancashire and Cheshire Miners' Permanent Relief Society. Several meetings have been held and a deputation met the council of the Medical Guild asking that the circular containing the rules above mentioned should be withdrawn, but the Medical Guild being conscious of the fairness of the terms mentioned in the rules resolved unanimously to abide by their decision. Now they are threatened with the establishment of a medical aid association in the town and the societies interested have issued a report in which they conclude "that should a medical association be instituted it will confer a lasting benefit on the friendly societies in the district." Added to this are extracts from balance-sheets of similar societies and these are interesting and certainly demand the careful consideration of the profession if not of the General Medical Council itself. It is deplorable after the cost and the time spent in a medical education that men can be found to take such appointments. The balance-sheet of the Warrington Association for the year 1897 showed twenty-five societies with a total membership of 3265. The income was from all sources £547 15*s.* 11*d.* The expenditure for the same period was £551 13*s.* 7½*d.*, thus showing a deficiency of £3 17*s.* 8½*d.* This was accounted for by extraordinary expenditure, such as paving the street, £24 9*s.*; replacing surgery chairs, £5 7*s.* 3*d.* The previous year there was a profit of £23 7*s.* 4*d.* Now for the interesting portion. The medical officer who has seen ten years' service received with allowances £231 6*s.* and for this he paid 4694 visits and gave 15,988 prescriptions, the average number per day being 44, including Sunday. Now, the money value works out at 11*s.* 8$\frac{1}{11}$*d.* per day and 3$\frac{5}{11}$*d.* per prescription, with the visits thrown in. Can this be termed anything else than "sweating"? The Preston Association for the year ending Dec. 21st, 1896, gives a balance on the year's working of £28 10*s.* 10½*d.* The medical salaries were £385 12*s.* 4*d.*; probably this includes the dispenser. During the year 11,878 prescriptions were dispensed, 13,064 attendances were made at the surgery, 5136 visits were paid, and 32 confinements were attended and 18 vaccinations. The Preston Medical Aid Association is worth £1296 14*s.* The Manchester Association employs three surgeons and pays them £459 7*s.* 6*d.*, equal to £153 2*s.* 6*d.* each, and has a balance to the good of £119 10*s.* 9½*d.* on the year's working. Now if a new medical aid association is to be formed on lines similar to these surely the profession will be found to contain men who are honourable enough to uphold its dignity as well as their own and who will refuse to be sweated by a combination of societies which refuses fair terms to their medical officers. The "sixpenny dispensary man" is looked down upon and practically ostracised by his professional neighbours, but what can a medical man who is the servant of a lay committee expect when he is selling his services at a less sum than the man with an independent dispensary?

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[1] See THE LANCET, April 23rd, 1898, p. 1138.

PUBLIC VACCINATORS OF THE STAINES UNION.

MR. C. DWIGHT MORRIS, the medical officer of health of the Staines Union, recently called a meeting of all the public vaccinators in his union to discuss the provisions of the new Vaccination Act. At this meeting, which all the public vaccinators in the district attended, it was unanimously resolved that they would be prepared to accept the following scale of fees which they trusted their board would agree to:—

Article 3, General Orders.—Sub-section (*a*), 2*s.* 6*d.*; sub-section (*b*), 6*s.*; and sub-section (*c*), 2*s.* 6*d.* That the postage as before be paid by the board—i.e., the various forms be stamped as before. The arrears cases to be subject to special arrangement as there appears to be no definite provision made for these (the Act dealing with cases registered after August 31st, 1898).

The public vaccinators arrived at the above conclusions after mature deliberation on the great difference in the character of the work as performed by them under the old contract and that required to be performed under the new regulations, which is roughly shown in the following scheme. The above scale is only slightly over the minimum as fixed by the Local Government Board; thus, taking into consideration that it is fully expected that a large number of persons will avail themselves of the conscience clause the actual cost will probably be very much less than under the old compulsory Act.

SCHEME SHOWING DIFFERENCE IN CHARACTER OF WORK TO BE DONE UNDER THE OLD ACT AND THE NEW.

The old regulations.—Stations appointments. Appointments four times a year. To vaccinate. Keep register. Forward accounts to vaccination officer. Only three forms required.

The new regulations.—Receive list from vaccination officer every week (Form H). Issue notices to parents (Form I). Visit and offer to vaccinate between the hours of 9 and 4 any part of the district or at parent's request (Form G). This might necessitate extra visits in an agricultural district like Staines. Return Form H to vaccination officer every month filled in. To keep register. To perform the act of vaccination strictly according to antiseptic conditions and protect with special antiseptic pads. To subsequently attend the child if upset by vaccination free of charge. No less than *ten forms* are now required to carry out the Act—viz., Forms B, C, D, E, F, H, I, O, P, and G. The possibility of being called to attend court to prove visits.

On Dec. 20th, 1898, Mr. Morris appeared before the board of guardians when the fees were unanimously accepted subject to the approval of the Local Government Board. In many districts boards are allowing mileage above the minimum scale, but this, it was considered, would be complex and difficult to adjust.

ASTOUNDING BRITISH ACTION AS TO PLAGUE.

THE news which comes to this country from Calcutta as to the action taken on the East Coast of Africa which is under British jurisdiction, as regards a plague-infected ship, will cause great astonishment, and that feeling will be strongly emphasised by the statement that the action in question has been upheld by the Foreign Office in London. The British India Steam Navigation Company's steamer *Bhandara* was engaged in carrying 1000 coolies from India for the purposes of the Uganda railway and, if report be correct, the authorities at Karachi, the port of departure, took the precaution to examine all the coolies prior to their departure. It is not, however, stated whether the same precautions were taken as regards the crew, concerning whom there is in some ports too much laxity. Twelve days after leaving Karachi the *Bhandara* arrived, on Dec. 27th last, at Kilindini, near Mombasa, and reported seven deaths from plague during the voyage. Here again nothing is as yet stated as to whether the first appearance of the disease was amongst coolies or amongst members of the crew. But peremptory orders were at once issued by the British Governor Sir Arthur H. Hardinge, to the effect that no communication would be allowed with the shore and that the vessel was to return to sea; in brief, an infected vessel was repulsed from British territory and an effort was made to prevent the vessel from getting water at Zanzibar which also comes under British control.

We believe that this action stands unique in modern British sanitary administration. It is in entire violation of everything that England has so long contended for, and, as the Indian Government points out, Great Britain is the first Power to make the Venice Convention a dead letter and hence to lay British shipping open to the same treatment in foreign ports by reason of the precedent she herself has established. The repulsion of an infected vessel has for the last fifty years been condemned in this country as involving distinct cruelty, and in the past it is known to have led to some of the most tragic disasters at sea by reason of the rapid spread of disease amongst those who must remain exposed to infection and because of the lack of food and water on board vessels which had only been provisioned for the purposes of a limited voyage. The story as it is told is too circumstantial for us to doubt the essential facts and we are obliged to admit that we have *read it* with shame. Our only hope is that in the closing days of the year and during a festive season someone at Whitehall has during a temporary absence of his chiefs blundered by commending that which should have been condemned.

It may, of course, be argued that our East African dominions have not formally accepted the Venice Convention. This is, we expect, true. But if the Home Government commend the greatest possible breaches of that Convention in the case of territories under their direct control what becomes of the pressure which they bring to bear on some of our colonies to become parties to the same Convention? Even if the sick had been left on board the *Bhandara* whilst the healthy had been encamped for nine days on shore the matter would have been better. As the story stands it implies gross neglect and unpreparedness at a British port which is known to have long been in constant relations and communication with plague-infected ports of India; and as regards the actual action taken in the case of the unfortunate vessel with her 1000 coolies and crew it seems to be without a solitary redeeming feature.

THE LANCET RELIEF FUND.

TENTH ANNUAL REPORT OF THE ALMONERS.

THE LANCET Relief Fund, which has for its Almoners the President of the Royal College of Physicians of London (Sir SAMUEL WILKS, Bart., M.D. Lond., F.R.S.), the President of the Royal College of Surgeons of England (Sir WILLIAM MACCORMAC, Bart., K.C.V.O.), the President of the General Medical Council (Sir WILLIAM TURNER, M.B. Lond., F.R.C.S. Eng. and Edin., F.R.S.), Mr. THOMAS WAKLEY, F.R.C.S. Eng., and Mr. THOMAS WAKLEY, jun., L.R.C.P. Lond., with Sir HENRY PITMAN, M.D. Cantab., F.R.C.P. Lond., as Honorary Auditor, came into operation on the 1st of February, 1889.

In presenting the tenth annual report the Almoners think it well again to direct attention to the object for which the Fund was established.

The Fund is sustained solely by the proprietors of THE LANCET who provide every January the sum of at least £300 and is administered free of cost, with the object of affording immediate pecuniary assistance to registered medical practitioners or to the widows and orphans of members of the profession in cases of distress and emergency, by the grant of money by way of loans free of interest, or gifts, as the circumstances of the various cases may require.

When the Fund was inaugurated considerable misapprehension existed as to the precise objects for which it had been established; and as a result the majority of the earlier applications, being cases of *chronic* distress, and not coming, therefore, under the desigration of *emergency*, could not be entertained. Attention was called to this fact in THE LANCET of Feb. 16th, 1889, in the following words:—

"We are requested by the Almoners to state that, from the character of a number of the applications received, both personally and by letter, for relief, it is evident that in many cases the object for which this Fund has been established is not quite clearly understood; and if relief had been afforded in the cases of those who suffer from chronic distress the Fund would have been completely exhausted within the first few days of its existence. They would therefore be greatly obliged if those readers of THE LANCET who may be asked to endorse applications would carefully peruse the Application Form and explain the precise object of the Fund to those applicants whose cases do not seem to come within the scope of the purpose for which the Fund has been established, which is to afford prompt aid to registered medical practitioners, or to the widows or orphans of members of the profession, who, in consequence of the supervention of some unexpected emergency, which is not likely to recur, have pressing need of immediate and temporary pecuniary relief"—and who, it may once more be pointed out, are likely to be permanently benefited thereby.

The balance in hand at the end of 1897 amounted to the sum of £173 5*s*. 8*d* On Jan. 3rd, 1898, the Proprietors of THE LANCET placed to the credit of the Fund the sum of £300. During the course of the year repayments of loans to the amount of £15 have been made. The sum of £175 has been granted in relief either by way of loan or of gift, leaving a balance of £318 5*s*. 8*d*. as per bank pass-book.

There have been considered altogether during the twelve months ending Dec. 31st, 1898, 33 applications for relief (the number the previous year having been 37). In 24 cases assistance was awarded either as a loan or as a gift according to the request of the applicant, the amounts of the grants ranging this year from £5 to £25.

The Almoners are glad to find from the number of letters received from recipients of the Fund that it continues to be of service to unfortunate members of the profession and that the particular object of assisting cases of emergency and immediate distress has been attained.

(Signed)

SAMUEL WILKS. WILLIAM TURNER.
WILLIAM MACCORMAC. THOMAS WAKLEY, JUN.
THOMAS WAKLEY.

Statement of Accounts for the Year ending Dec. 31st, 1898.

DR.

				£	s	d.
To Balance at the London and Westminster Bank, Limited (Westminster Branch), Jan. 1st, 1898			...	173	5	8
,, Proprietors of THE LANCET			...	300	0	0
,, Repayment of Loans:—						
Case No. 339	£1	0	0			
,, ,, ...	1	0	0			
,, ,, ...	1	0	0			
,, 361	2	10	0			
,, ,, ...	2	10	0			
,, 339	1	0	0			
,, ,, ...	1	0	0			
,, 361	2	10	0			
,, ,, ...	2	10	0			
				15	0	0
,, Cheque outstanding Case No. 414				5	0	0
				£493	5	8
To Balance at Bank				£318	5	8

CR.

	£	s.	d.	£	s.	d
By Loans:—						
Case No. 385	5	0	0			
,, 397	25	0	0			
				30	0	0
By Gifts:—						
Case No. 382	5	0	0			
,, 383	5	0	0			
,, 384	5	0	0			
,, 387	5	0	0			
,, 390	10	0	0			
,, 391	5	0	0			
,, 394	10	0	0			
,, 395	5	0	0			
,, 396	5	0	0			
,, 398	5	0	0			
,, 401	10	0	0			
,, 402	5	0	0			
,, 403	5	0	0			
,, 404	10	0	0			
,, 405	5	0	0			
,, 407	5	0	0			
,, 408	15	0	0			
,, 409	10	0	0			
,, 410	5	0	0			
,, 414	5	0	0			
,, 415	5	0	0			
,, 416	5	0	0			
				145	0	0
,, Balance at Bank, Dec. 31st, 1898				318	5	8
				£493	5	8

I find by the Bankers' Book that the actual balance on Jan. 1st, 1898, to the credit of the Fund was £173 5*s*. 8*d*., to which the sum of £300 was added by the Proprietors of THE LANCET on Jan. 3rd, 1898.

The balance at the Bank at the present date is the sum of £318 5*s*. 8*d*. I have also checked the receipts for disbursements and find the above account strictly accurate.

December 30th, 1898. HENRY A. PITMAN, Hon. Auditor.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 5467 births and 4105 deaths were registered during the week ending Dec. 31st. The annual rate of mortality in these towns, which had been 16·6 and 17·8 per 1000 in the two preceding weeks, further rose last week to 19·1. In London the rate was 18·4 per 1000, while it averaged 19·5 in the thirty-two large provincial towns. The lowest death-rates in these towns were 12·6 in Croydon, 13·7 in Huddersfield, 14·1 in Cardiff, and 14·6 in Halifax; the highest rates were 23·5 in Blackburn, 23·6 in Oldham, 24·3 in Wolverhampton, and 24·6 in Gateshead. The 4105 deaths in these towns included 405 which were referred to the principal zymotic diseases, against 372 and 424 in the two preceding weeks; of these 106 resulted from diphtheria, 95 from measles, 71 from whooping-cough, 63 from "fever" (principally enteric), 36 from diarrhœa; paid 4[illegible] from scarlet fever. No death from any of these w[illegible]mber pes recorded last week in Birkenhead; in the other and 34 [illegible] value caused the lowest death-rates in Plymouth, diseases wa[illegible]n, with nd, and Newcastle-upon-Tyne, and the towns they ca[illegible]e than Wolverhampton, Gateshead, Nottingham, Bristol, Sunderla[illegible]ndite greatest mortality from measles occurred highest rates in [illegible]ofhester, Nottingham, and Swansea; from and Swansea. Th[illegible]n, Swansea, Huddersfield, Gateshead, in Salford, Manc[illegible]n; and from "fever" in Derby, Bolton, whooping-cough [illegible]ne mortality from scarlet fever showed no Oldham, and Presto[illegible]y of the large towns. The 106 deaths nd Gateshead. Th[illegible]icuded 47 in London, 8 in West Ham, marked excess in m[illegible]ticmingham, 5 in Swansea, 5 in Liverpool, om diphtheria incl[illegible]t, in Leeds. No fatal case of small-pox in Sheffield, 6 in Bi[illegible] in Leicester, and 4 [illegible]ng the week under notice either in was registered durir[illegible]ssof the thirty-three great towns, and London or in any o[illegible] no small-pox patients [illegible]rofe were under treatment in any of the Metropolitan Asylu[illegible]ough ms Hospitals. The number of scarlet fever patients in [illegible]fu these hospitals and in the London Fever Hospital on Saturday last, Dec. 31st, was 2939, against numbers decses fair. end of the six prec dispen[illegible]ning from 3259 to 2901 at the preceding weeks; 225 new cases were admitted during the ostra week, against 276, 260, and 264 in the three preceding weekica. The deaths referred to diseases of the respiratory organs [illegible] in London, which had been 283 and 284 in the two preceding weeks, further rose to 306 last week, but were 291 below the co[illegible]rrected average. The causes of 60, or 1·5 per cent., of the de[illegible]aths in the thirty-three towns were not certified, either b[illegible]y a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Manc[illegible]hester, Salford, Newcastle-upon-Tyne, and in thirteen othe[illegible] smaller towns; the largest proportions of uncertified death[illegible]s were registered in Birmingham, Liverpool, Bradford, and H[illegible]ull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in [illegible] which had declined in the [illegible]meeti[illegible]he eight Scotch towns, 21·0 to 18·2 per 1000, was athree preceding weeks from ending Dec. 31st., and wa be ragain 18·2 during the week rate during the sam[illegible]hich is 0·9 per 1000 below the mean English towns. The period in the thirty-three large ranged from General the rates in the eigh Scotch towns [illegible] 12·4 in Paisley and 17·4 in Dundee to 21·3 in Greenock and 22·1 in Perth. The 548 deaths in these towns included 14 which were referred to whooping-cough, 13 to measles, 10 to scarlet fever, 9 to diarrhœa, 9 to "fever" (principally enteric), and 3 to diphtheria. In all, 58 deaths resulted from these principal zymotic diseases, against 54 and 68 in the two preceding weeks. These 58 deaths were equal to an annual rate of 1·9 per 1000, which corresponded with the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 16 and 14 in the two preceding weeks, were again 14 last week, of which 7 occurred in Glasgow, 3 in Edinburgh, and 3 in Aberdeen. The 13 deaths from measles showed a slight further increase upon recent weekly numbers, and included 6 in Glasgow and 4 in Edinburgh. The fatal cases of scarlet fever, which had increased from 5 to 14 in the five preceding weeks, declined to 10 last week, of which 6 occurred in Glasgow and 3 in Dundee. The 9 deaths referred to different forms of "fever" were within 2 of the number in the preceding week, and included 5 in Glasgow and 2 in Edinburgh. The deaths from diseases of the respiratory organs in these eight towns, which had been 132 and 119 in the two preceding weeks, further declined to 110 last week, and were 76 below the number in the corresponding period of last year. The causes of 26, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 25·2 per 1000 in each of the two preceding weeks, rose to 27·7 during the week ending Dec. 31st. During the thirteen weeks of the quarter ending on Saturday last the death-rate in the city averaged 26·8 per 1000, the rate during the same period being 17·2 in London and 20·0 in Edinburgh. The 186 deaths registered in Dublin during the week under notice showed an increase of 17 upon the number in the preceding week, and included 9 which were referred to the principal zymotic diseases, against 15 and 10 in the two preceding weeks; of these, 4 resulted from whooping-cough, 2 from diarrhœa, 1 from scarlet fever, 1 from diphtheria, and 1 from "fever," but not one either from small-pox or measles. These 9 deaths were equal to an annual rate of 1·3 per 1000, the zymotic death-rate during the same period being 1·8 in London and 1·9 in Edinburgh. The fatal cases of whooping-cough, which had been 5 and 4 in the two preceding weeks, were again 4 last week. The mortality from "fever" also corresponded with that recorded in the preceding week; while the mortality from scarlet fever showed a decline. The 186 deaths registered in Dublin last week included 38 of infants under one year of age and 44 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons exceeded the numbers recorded in the preceding week. Twelve inquest cases and 8 deaths from violence were registered; and 73, or more than a third, of the deaths occurred in public institutions. The causes of 19, or more than 10 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

STAFF SURGEON SAMUEL WILLIAM VASEY has been promoted to the rank of Fleet Surgeon in Her Majesty's Fleet.

The following appointments are announced:—Staff Surgeons: Graham E. Kennedy to the *Liffey*; Edward J. Morley to the *President*; Charles W. Sharples to the *Australia*, for R.N. Rendezvous and Medical Depôt; and Vidal G. Thorpe to the *Furious*.

ROYAL ARMY MEDICAL CORPS.

Major J. J. C. Donnet proceeds from Poona to Rawul Pindi for temporary duty in the Punjab Command. Captain H. A. Bray and Captain J. H. Rivers, now in India, proceed to Cairo for service with the Egyptian Army on the Nile. Majors J. J. O'Donnell, R. O. Cusack, A. O. Geoghegan, and F. B. Maclean, Captain S. J. Perry, and Lieutenant S. O. Hall have left England in the *Dilwara* for India; Major O. W. Allport is *en route* to Malta in the *Jelunga*, and Captain W. E. Hardy is *en route* to Cape Town in the *Goorkha*.

INDIA AND THE INDIAN MEDICAL SERVICES.

Colonel Eaton, Royal Army Medical Corps, Principal Medical Officer, Poona District, having been directed to proceed from Poona to Nowshera to assume the duties of Principal Medical Officer, Malakand Field Force, Lieutenant-Colonel W. J. Fawcett, Royal Army Medical Corps, takes charge of the office of Principal Medical Officer, Poona District, in addition to his own duties.

The Queen has approved of the following promotion:—To be Colonel: Lieutenant-Colonel William McConaghy, Bombay Establishment. The Queen has also approved of the retirement from the service of the under-mentioned officers:—Lieutenant-Colonel Frederick Henry Blenkinsop, Madras Establishment; Brigade-Surgeon-Lieutenant-Colonel Frederick Augustus Smyth, Bengal Establishment; and Lieutenant-Colonel Phirozsha Jamsetji Damania, Bombay Establishment.

VOLUNTEER MEDICAL STAFF CORPS.

Captain Lewis Way, Royal Army Medical Corps, to be Adjutant, vice Captain G. T. Rawnsley, whose period of service has expired. Surgeon-Captain B. Locking to be Medical Officer to the 3rd Battalion, Wellington (East Coast) Rifle Volunteers, with present rank.

ARMY MEDICAL STAFF AND ROYAL ARMY MEDICAL CORPS.

The following retirements will take place during the present year:—Surgeon-General A. F. Churchill, June 14th; Surgeon-General T. Maunsell, C.B. July 1st; Surgeon-General W. Nash, Nov. 20th; Colonel R. P. Ferguson, March 13th; and Lieutenant-Colonel A. H. Anthonisz, Dec. 22nd.

THE NEW YEAR HONOURS.

The following officers of the Indian Medical Service are included in the New Year's Honours' list: Colonel William Pleace Warburton, M.D. Edin., and Colonel David Sinclair, M.D. Aberd., receive Companionships of the Order of the Star of India, and Lieutenant-Colonel Henry Kellock McKay, M.R.C.S. Eng., and Major Winthrop Benjamin Browning, L.R.C.P. & S. Irel., Companionships of the Order of the Indian Empire; Captain John Lloyd Thomas Jones, M.B. Durh., Captain William Ernest Jennings, M.B. Edin., Captain Arthur Frederick William King, M.R.C.S. Eng., L.R.C.P. Lond., and Lieutenant William James Niblock, M.B. R.U.I., are to be enrolled as Honorary Associates of the Order of the Hospital of St. John of Jerusalem in England.

BADGE FOR THE ROYAL ARMY MEDICAL CORPS.

The *Daily Mail* of the 3rd inst. has the following announcement:—The military headquarters and the Herald's College of Arms have designed a badge for the newly-formed Royal Army Medical Corps which now comprises all ranks of the old Army Hospital Corps and the Medical Staff Corps. From time immemorial the serpent and rod have been the emblem of the art and practice of medicine, and it has therefore been decided to make the serpent the future badge of the Royal Army Medical Corps. The serpent is entwined round a caduceus enclosed in a laurel wreath surmounted by the Imperial crown, with the motto, "In arduis fidelis."

THE EXAMINATION FOR THE ARMY MEDICAL SERVICES.

The result of the next competitive examination for the Royal Army Medical Corps and Indian Medical Service is awaited with great interest as medical officers are much needed to fill up the establishment and relieve the pressure on medical officers at present serving in the Royal Army Medical Corps especially.

DEATHS IN THE SERVICES.

Surgeon-General L. S. Bruce, retired, at Ealing, aged sixty-eight.

Correspondence.

"Audi alteram partem."

"WHAT IS TABES MESENTERICA IN INFANTS?"

To the Editors of THE LANCET.

SIRS,—Dr. J. W. Carr's letter in THE LANCET of Dec. 17th raises the interesting question how far infection of infants with tubercle really takes place through the alimentary in comparison with the respiratory tract. I cannot quote statistics such as his but I can thoroughly endorse what he says as to the too free use of the expression "consumptive bowels" by the class of parents who bring their children to hospitals. Over and over again I have been asked, when seeing a wasted infant half killed by improper feeding, but presenting no evidence whatever of tubercle either of the abdominal or thoracic organs, "Do you think baby is suffering from 'consumptive bowels'?" Ask the mother why she has this idea and she replies, "My doctor told me so"; and she is obviously dissatisfied with the statement that there is no evidence of "consumptive bowels" but much evidence of her own ignorance and possibly of neglect. Clearly, as Dr. Carr says, the condemnation to death under the phrase "consumptive bowels" has satisfied everyone and exonerated both parents and medical man from any further effort to preserve the child's life; and yet over and over again such a child, if not too much enfeebled, has recovered on admission to hospital, where the only treatment has been rational feeding and where no sign of tubercle has ever shown itself. Such cases, I am sure, help to swell largely the Registrar-General's death returns of abdominal tuberculosis, particularly in the class under one year, and to vitiate any argument based on the alleged increase of "tabes mesenterica."

There is another matter which I think has been strangely overlooked in the question of infection by tuberculous milk which now occupies so prominent a place in our medical and lay journals. It seems to be generally assumed that the children of our poor are fed upon "raw" milk. We as a nation are even held up to opprobrium for our habit of giving uncooked and therefore possibly tuberculous milk to children. It is generally assumed that while the children of the well-to-do are fairly carefully guarded against such infection by their milk being boiled, the children of the poor are perpetually exposed to this danger by being fed on "raw milk." My own experience is that the poor almost invariably when using fresh milk boil their pint or two pints *as soon as they receive it.* At the North-Eastern Hospital for Children I have asked the question in hundreds and hundreds of cases, "Are you careful to boil the milk before giving it to your baby?" I can hardly remember a single instance where the answer has been in the negative, and a moment's reflection will show that these people are speaking the truth. In their small hot rooms it is not easy to preserve milk for many hours, particularly in the summer, and therefore they are forced into taking the best course known to them for preserving the milk—namely, boiling. I quite believe that the milk which has been boiled in the morning is often exposed before use to fresh infection, but this is very rarely tuberculous.

It is generally admitted that boiling or even Pasteurising at 167° F. will render tuberculous milk safe, and if this be so and my contention as to the boiling of the great bulk of the cows' milk used for infant feeding in our big towns is also true, then we do away with the argument that the alleged increase in tabes mesenterica is due to milk infection and we may well follow out Dr. Carr's inquiry as to whether tabes mesenterica is really so common a disease, as a ready acceptance of the Registrar-General's returns might lead one to believe. I do not for one moment suggest that the precautions advocated in Sir William Broadbent's speech at Marlborough House as to rejection of tuberculous cows as milk suppliers should not be carried out, but I feel that if there is any increase in tuberculous mesenteric disease, which I consider very doubtful, the causes must be sought for elsewhere than in our milk-supply. For even that pernicious article "condensed milk," so largely used among the poor from its cheapness, convenience, and its palatability (to infants' taste), has undergone sterilisation at 212° F. previously to its condensation and is therefore presumably harmless from a tuberculous point of view. If official supervision be exercised over our own dairy cows and the tuberculous ones be excluded as milk-suppliers it is earnestly to be hoped that the very large and increasing quantity of foreign fresh milk imported will be subjected to a rigid bacteriological scrutiny which will make it impossible for tuberculous foreign milk to undersell pure English milk whose cost must almost necessarily be raised by the restrictions on its supply involved by a rejection of tuberculous dairy cows. I am, Sirs, yours faithfully,

Lower Seymour-street, W., Dec. 30th, 1898. W. A. WILLS.

"THE SEAMEN'S HOSPITAL SOCIETY AND ITS VISITING STAFF."

To the Editors of THE LANCET.

SIRS,—Dr. Manson's impressions as to his position on the staff of the Seamen's Hospital Society as set forth in his letter in THE LANCET of Dec. 31st are so mistaken that we are again obliged to draw his attention to the written records on the subject.

On April 9th, 16th, and 23rd, 1892, advertisements appeared in the medical press (THE LANCET and *British Medical Journal*) for a visiting physician to the Seamen's Hospital Society's Branch Hospital, Victoria and Albert Docks. Dr. Manson was a candidate for this post. He was selected on May 4th by a sub-committee of which we were members and duly elected on May 13th to the appointment he sought. Reference to the minute-book to which we referred him clearly shows this. It was some considerable time after Dr. Manson was appointed to the Branch Hospital that the physicians of the *Dreadnought* as an act of courtesy to him allowed him the use of 6 beds in their wards for cases which had been under his care at the Branch. They both lent him 3 beds, little supposing that this concession would lead him to assume the title of "Physician to the Seamen's Hospital, Greenwich."

The annexed letter from us to Dr. Manson (Jan. 21st, 1896) clearly put before him his real position, yet after his apology (copy of which is enclosed) he now writes: "At the time of the correspondence referred to I did consider, as I still consider, that I had a perfect right—in fact, as much right as either Dr. Curnow or Dr. Anderson had—to designate myself 'Physician to the Seamen's Hospital, Greenwich.'" The profession must judge whether it is "in conformity with medical custom" for a physician elected to one hospital to describe himself as physician to another and whether the officers of the latter have not cause for remonstrance if such is repeatedly done.

We are, Sirs, your obedient servants,
JOHN CURNOW.
JOHN ANDERSON.
Jan. 3rd, 1899. G. R. TURNER.

[*Copy of Letter from the Staff of the Seamen's Hospital to Dr. Manson.*]

Dreadnought Seamen's Hospital, Greenwich,
21st January, 1896.

DEAR DR. MANSON,—With reference to your letter to Mr. Michelli of the 18th Dec. last, a copy of which has been sent to one of us and which we should have replied to sooner but for the Christmas holidays, we wish to draw your attention to the terms of your appointment as shown in the minute-book of the Seamen's Hospital Society.

On May 4th, 1892, a sub-committee met to recommend a physician to the Branch Seamen's Hospital at the Royal Victoria and Albert Docks and an ophthalmic surgeon to the Seamen's Hospital Society. In the same minute-book (May 13th, 1892, page 138) it is noted that you were elected to the office of physician to the said branch hospital and Mr. Gunn ophthalmic surgeon to the Seamen's Hospital Society. We also wish to call your attention to the 74th official report of the Seamen's Hospital Society (copy enclosed) in which you are styled Physician to the Royal Victoria and Albert Docks' Hospital and to the official note-paper in which a distinction is clearly drawn between the *Dreadnought* Seamen's Hospital, Greenwich (235 beds), and the Branch Seamen's Hospital, Royal Victoria and Albert Docks (18 beds).

It appears clear to us from the foregoing that you should not allow yourself to be described as "Physician to the Seamen's Hospital, Greenwich," as has lately been done in the list of contributors to Davidson's "Hygiene and Diseases of Warm Climates," the *British Medical Journal*, Kelly's London Medical Directory, 1895, and Churchill's Medical Directory, 1896. If there is still any misunderstanding we shall be happy to meet you and discuss the matter. We are forwarding a copy of this letter to Mr. Michelli.

We remain, yours faithfully,
(Signed) JOHN CURNOW, } Visiting Physicians.
JOHN ANDERSON, }
G. R. TURNER, Visiting Surgeon.

[*Copy of Letter from Dr. Manson to Mr. W. Johnson Smith.*]

21, Queen Anne-street, Cavendish-square,
4th Feb., 1896.

DEAR MR. JOHNSON SMITH,—Many thanks for your very courteous letter.

Your interpretation of mine to Mr. Michelli is correct. Therein I explained how I came to call and allow myself to be called "Physician to the Seamen's Hospital, Greenwich," a mistake I shall be careful to avoid in future. Please accept and convey my apologies to the medical staff.

Yours very truly,
(Signed) PATRICK MANSON.

"TWO CASES OF CÆSAREAN SECTION" (ON ACCOUNT OF IMPACTED OVARIAN TUMOUR).

To the Editors of THE LANCET.

SIRS,—Dr. Braithwaite publishes in your issue of Dec. 31st two cases in which he successfully performed Cæsarean section on account of ovarian tumour impacted in the pelvis during advanced pregnancy. As Cæsarean section has been performed several times of late on account of this condition I would beg a little of your space to point out that an impacted ovarian tumour is not an indication for this severe operation which in addition to its immediate danger entails some risk of rupture of the uterus in a subsequent pregnancy and of the formation of calculi if the uterine sutures work their way into the bladder. Not to mention removal of the tumour by the vagina (which personally I do not favour), the difficulty may be got over either by reposition of the tumour or, if that be impossible or inadvisable, by slightly[1] enlarging the abdominal incision and withdrawing the uterus from the abdomen and then removing the tumour and replacing the uterus, first delivering the child by the vagina if the cervix be dilated during labour. During the last two years I have met with 4 cases of incarcerated ovarian tumour during pregnancy, which I have removed by simple abdominal ovariotomy. In one case I removed the tumour during pregnancy, in two others pushed it up and removed it after delivery, and in the fourth removed it during labour by the last method mentioned above. The mothers and children all survived. In Dr. Braithwaite's second case I notice that the child (which subsequently died) was removed shoulder first, but as the child can only be delivered in this position through an unnecessarily large *incision and with increased danger to its* life it would seem to be better to follow the practice of ordinary midwifery and deliver by version (preferably cephalic). I am, Sirs, yours faithfully,

Harley-street, W., Jan. 2nd, 1899. HERBERT R. SPENCER.

"DIPHTHERIA ANTITOXIN IN PRIVATE PRACTICE."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Dec. 24th, 1898, page 1733, there appears a letter on Anti-diphtheritic Serum signed "H. E. G." This writer raises two important points—viz., dose and price; and as he mentions us by name kindly permit us a word in reply. First as to dose. He puts the number of antitoxin units used at the hospital where he worked and of which he was assistant medical officer as "not uncommonly from 8000 to 16,000, and even 24,000 in forty-eight hours, with the result "that he was so convinced of the good obtained that when he took up private practice he determined to adopt it." Very satisfactory. "H. E. G.'s" experience corroborates that of Dr. Sidney Martin as detailed by him in the *British Medical Journal* of Sept. 3rd, 1898, and no one so far as we know has had greater success than he at University College Hospital. His average dose now is 6000 units; but at a *tentative time* doubtless he prescribed many more. His low rate of mortality has encouraged others, so that it would be true to say that the dose of antitoxin has a tendency upwards. Some bacteriologists believe that failures in its use three or four years ago were probably due in many instances to the antitoxin being too weak and being administered in an impotent dose; and as medical men become converted to the views propounded by Dr. Martin and endorsed by your correspondent "H. E. G." so will the mortality from diphtheria in all probability fall to almost vanishing point. And therefore we think that great service has been rendered by the attention of the profession being drawn to the proper doses of serum.

Till recently it has been impossible to obtain very strong serum commercially, but now *with a serum containing* 1250 units per c.c. it is possible to administer in 4½ c.c. (about 2 drachms) a dose of 6000 units. Our serum is tested and certified by one of the highest bodies in the land; it will retain its potency for months, and there is no difficulty about "stocking" it either on the part of local chemists or of medical men themselves.

"H. E. G." has done us an injustice, no doubt unintentionally, in quoting our price as 17*s.* 6*d.* for 2000 units. Our charge is 6*d.* per 100 units, at which figure it has stood for *eight months* past; and considering all that is stated above we consider it a fair one.

We enclose herewith our circular letter concerning serum-therapy and our price list of serum. Kindly forward it to "H. E. G." with our assurance that both have been *circulated* for many months past.

We shall be most pleased to answer questions.

We are, Sirs, yours faithfully,
PARKE, DAVIS, AND CO.

North Audley-street, W., Dec. 28th, 1898.

To the Editors of THE LANCET.

SIRS,—I would venture to suggest that your correspondent

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[1] It is remarkable through how small an incision the uterus can be delivered if it be tilted so that one cornu presents and the abdominal wall be pulled back over the uterus instead of trying to lift the organ out of the abdomen.

"H F G in The Lancet of Dec 24th 1898 must have made a mistake in his figures For 16,000 units read 1600, and I think the latter figures will represent the dose of serum usually recommended in all but the severest and most unfavourable cases Probably this is only a clerical error, but I can imagine many a country practitioner might be deterred from using the serum by the cost so large a dose would involve I have had several most successful cases and have never had to use more than 1500 units

I am, Sirs, yours faithfully,
G M P

Dec. 28th 1898.

Erratum —In Mr H F Allen's letter published in our issue of Dec 24th an asterisk should have appeared before the name of the Royal College of Surgeons in Ireland, indicating that the preliminary examination of this body is no longer on the General Medical Council's list

THE IRISH LOCAL GOVERNMENT ACT

(From our Special Commissioner)

Sanitation and the Dispensary Medical Officers

The new law for the local government of Ireland will come into force on the 25th of March this year The question naturally arises as to the effect which this most recent phase of Irish legislation is likely to have upon the position of the medical officers of dispensaries This large class of practitioners suffer from grievances which are closely akin to those denounced in The Lancet under the headings of "The Battle of the Clubs and "Hospital Abuse But the position of the Irish dispensary medical officer is often more hopeless As Ireland is mainly an agricultural country there are but few large towns Therefore medical practices are principally rural, the populations are very poor so that the dispensary medical officer is dependent on his salary and cannot hope to acquire a private practice of sufficient importance to make him independent of his appointment There are 159 unions in Ireland Each union has its board of guardians, its workhouse hospital or infirmary and a medical man attached who as a rule only attends to the hospital patients These union districts are, however, very large and have consequently been subdivided into 893 dispensary districts Each dispensary district has its dispensary committee which is under the jurisdiction of the board of guardians and some guardians may attend the meetings of such committees *ex officio* The dispensary committee is a very small local body In the rural districts—and these constitute the vast majority of the districts—there are but few educated persons who could possibly be chosen as committee men These nominations are made by the board of guardians and the nominee must have a rating of £30 a year The committee is supposed to meet at least once a month but its members do not always observe this rule and are far more ready to come together for election and political purposes than for the carrying out of dispensary business The committee men are largely selected from the petty tradesmen and small farmer class They are very generally chosen for political reasons, many do not even know how to read but they have influence in keeping together the political party which nominates them Sometimes a justice of the peace may be appointed but very often he does not reside in the district and therefore does not attend Stupid, uneducated farmers and illiterate pothouse politicians who cannot even sign their names are put on these dispensary committees They have no knowledge of public duties and of local administration All they can do is to rail against the Jesuits if it be a Protestant district and to abuse the Saxon domination if it be a Roman Catholic district Yet it is these miserable petty local committees where the ignorant prejudices and fanaticism of either Protestant or Roman Catholic, according to the district govern all other considerations which have had the mission to select and appoint the dispensary medical officers Certainly the Irish Local Government Board defines what should be the qualification of the medical man—i e a knowledge of medicine surgery, and midwifery—but it is the dispensary committee which selects among qualified candidates the medical man it prefers

What, then, has a medical men to do so as to secure his election by such a committee? First and foremost he must pay court to the leading local priest or minister It is of absolutely no use striving unless he is in religious accord with the majority of the district He must be Presbyterian with the Presbyterians and Roman Catholic with the Roman Catholics or his chances are *nil* Then he must have the same political opinions as the members of the dispensary committee, and though as a rule Roman Catholics are Nationalists and Protestants are Unionists this is not always the case Nor does the difficulty end here In some districts the successful candidate has been elected on the strength of being a boon companion which is not altogether the best qualification for attending upon the sick poor When a vacancy occurs there is, unfortunately and in spite of these degrading conditions a great rush of candidates Perhaps as many as twelve medical men will apply for the vacant post Invariably the first question asked relates not to the experience or capacities of the candidate but to his religious opinions This inquisition is equally strict on both sides The Protestants are just as prejudiced and unfair as are the Roman Catholics As a dispensary medical officer put it to me, "The candidate must square the parish priest or the Tory landlord, otherwise he has not the ghost of a chance Then to succeed he should be a friend or relation of one or more of the members of the committee or of the parish priest The committee will not inquire about the candidate's technical capacities, his success as a practitioner is the last of all considerations, they will scarcely inquire if he is sober Indeed there are cases of persons to whom the Local Government Board have taken objection and who have nevertheless been re elected by these dispensary committees The election is reported by the dispensary committee to the board of guardians and by the latter to the Local Government Board, which final authority always confirms the election unless the candidate had been on a previous occasion dismissed from the Poor law service

The dispensary medical officer has not only to attend to the sick poor but as a rule he is also the medical officer of health of the district, the public vaccinator and the registrar of births deaths and marriages It is bad enough that the attendance on the sick poor should depend upon such a method of election as that thus described but the general public health is likewise imperilled The dispensary committees consist for the most part of a class of men who know nothing and care less about sanitary matters They are dirty and careless in their habits and if the dispensary medical officer were to do his duty as medical officer of health he would have to report against the very committee men who had appointed him Then in rural districts the dispensary medical officer receives perhaps only £10 a year for his work as medical officer of health The practical result is that nothing is done and no attempt is made to alter even the most flagrant insanitary conditions The Irish Medical Association has sought in vain to improve this deplorable state of affairs Deputations were sent to London before the Irish Sanitary Act was passed They induced Sir Michael Hicks Beach to introduce a clause in the Bill appointing superintendent medical officers of health for all Ireland who were to see that the local medical officers of health did their duty The deputation returned from London delighted with the result of their mission But when the Bill had become law the Local Government Board of Ireland set to work to neutralise its effects Instead of insisting at once on the appointment of competent superintendent medical officers of health a circular was sent round to the boards of guardians saying that in appointing medical officers of health no salaries would be sanctioned which exceeded in amount a quarter of the sum paid to the local dispensary medical officer This meant that the latter whenever appointed to act as medical officer of health could rarely obtain more than £25 and generally only about £12 or £15 a year for performing these extra duties The guardians and the dispensary committees being for the most part diametrically opposed to any sort of sanitary reform in many cases did not offer even this small amount so that there was practically every inducement for a medical officer of health who wished to get on with his Board to leave matters alone With regard to the superintendent medical officers of health who were to put an end to this systematic negligence the Irish Local Government Board commenced by issuing a circular altering the name of the office to that of "consulting sanitary officer By this it was inferred that they were not to act unless they were consulted. Naturally it was well known that they were never likely to be consulted. But further, to make it still more certain that they should do nothing it was laid down that they were to receive no salary whatsoever. They might, it is true, be paid a guinea per consultation when consulted, and of course this possibility of having to pay a guinea was another very good method of preventing any effective sort of superintendence being exercised. Thus public health questions remain in abeyance and it may be said that so far as the rural districts and the small towns are concerned medical officers of health exist only in name.

The question now arises whether under the new Local Government Act any improvement will take place. The Act abolishes the local dispensary committees. The districts will remain but the appointments of dispensary medical officers to those districts will be made by the boards of guardians. These being larger and more important bodies it is supposed that they will be less amenable to corrupt and petty local influences. On the other hand the *ex-officio* guardians have been abolished. They consisted of the largest ratepayers and property-owners of the neighbourhood who sat on the board of guardians without being elected. This gave a certain tone to these bodies. Now all the guardians must be elected, so they will all be strict party men. These new boards of guardians will, it is supposed, be controlled, at least to some extent, by the district councils representing a federation of five unions. Again, the district councils are in their turn to be controlled by the county councils. But the functions of these various authorities differ greatly and it is thought that the control they will exercise will prove to be very slight. Opinions are much divided as to the probable result. Some think there will be an improvement; others, on the contrary, maintain that the present grievances will, if anything, be accentuated.

So far as the interests of the public are concerned the first and most urgent reform needed is that the appointment of dispensary medical officers and medical officers of health should depend wholly on the ability of the candidates to fulfil the duties involved and not on their political or religious opinions. The neutralising of such offices would certainly be quite contrary to the spirit and inclinations of the Irish people whether Protestant or Roman Catholic, but it is nevertheless most necessary. To what length political and religious antagonism may go is best shown by a most melancholy story related to me. A dispensary medical officer had reached the age of eighty-two years. For several years he had been quite unfit for his work. He was called up at all hours of the night and sometimes he had to see patients who lived at a distance of eight miles, but more often than not the patients had to do without him. Not only was he weak, old, and infirm, but he was partially blind. Still he kept on as long as was possible, striving to do his work, as he was dependent solely on his salary for his subsistence. At last three members of his dispensary committee called upon him and promised that if he resigned they would persuade the committee to grant him a pension. Though advised by his friends not to accede to this request the medical officer, feeling that he had no longer the strength to attend properly to his patients, finally tendered his resignation. He thus placed himself at the mercy of the committee, for he had only the promise and not the certainty of a pension. The three committee-men who had seen him before now called again. They repeated their promise to get him a pension but explained that they were unable to do so for the moment because it had been discovered that he had not resigned his post as medical officer to the constabulary. He must also resign that function so that they might have more to offer to the new dispensary medical officer who had soon to be appointed. In vain the aged practitioner protested that this was his last source of income and that if he gave it up and they failed to obtain the promised pension he would be reduced to beggary; still they insisted and finally he complied. No sooner had this been done than the three members of the dispensary committee, instead of keeping their promise and using all their influence to prevail upon the committee to vote a pension, sought, on the contrary, with all their force to oppose the proposal to grant the pension. They explained that they had persuaded the old man to resign so as to get rid of him. His daughter had accepted a seat on an "outside car" to drive to the local railway station to see the train pass which bore the Prince of Wales on his way to Cork. This was an insult to the Nationalism of the committee and therefore the dispensary medical officer, after years of faithful service, was treacherously persuaded to resign. He was left to starve, and did not get any pension whatever, because his daughter had tried to see the Prince of Wales.

But in such cruelty and heartlessness the Roman Catholics are not alone. The Protestants can be guilty of equal inhumanity. Thus the story was told me of another dispensary medical officer serving a Protestant dispensary committee in the north of Ireland. He was very old and he suffered acutely from "rheumatic gout." He had to drive to his patients and when on reaching a village he arrived at the cottage where they were waiting for him the patients came out one by one and stood on the sidewalk. He questioned and examined them as best he could without leaving his trap. He had served this district for forty years, yet his committee would not give him a pension nor would they pay for a locum-tenent. At last he had to ask his son to help him, though his son had a dispensary district of his own situated six miles away. With this aid he continued the work for two years more and then died in harness. What are we to think of a local authority which can be guilty of such cruel and petty economy?

The new Act deals with the question of pensions but in a most unsatisfactory manner. All dispensary medical officers who are sixty years old on March 25th, 1899, and have worked in that capacity for twenty years will get a pension equal to one-third of their salary. This they will obtain whether the guardians approve or not. But after this one settlement the old and vicious system comes in force again. Dispensary medical officers will once more depend on the boards of guardians for their pensions. These boards will be able to refuse to give any pension whatsoever or they may give as much or as little as they choose. Thus the improvement effected by the Act will have but a transitory effect.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

A New System of Administration of Plague Measures.—The Proceedings of the Plague Commission.—The City of Bangalore.

THE drastic measures originally carried out with the idea of controlling the plague epidemic have been gradually relaxed. With the recognition of their failure to limit the disease the Government have now gone to the other extreme. Amongst other things they have concluded that to make hospitals effective it is necessary to secure the confidence of the classes for whose succour they are built and maintained. Having found that even with house-to-house visitation fully 50 per cent. of cases were successfully concealed the Government have now decided to encourage the voluntary reporting of cases. This is hoped to be achieved by making the hospitals attractive and by taking measures to eliminate the lesser discomforts and loss resulting from disinfection and to obviate the hardship of the temporary removal of the poorer classes of people from infected houses and streets. It is supposed that so long as hospitals are regarded with suspicion and dislike there will be concealment of cases and opposition to removal. The hospitals are to be ornamented with plants and flowers and hakims and native practitioners may be employed by the patients. The sufferings of the poor whose normal poverty is sadly aggravated by the visitation of plague are to be mitigated by the support of the family of the sufferer during the incapacity of the bread-winner, by the payment of funeral expenses if death supervenes, by the provision of extra rations for a few days before the discharge of the convalescent, and by assistance to such to return to their families. To obviate concealment of cases through dread of disinfection compensation on the spot will be made to the poor for destruction of any clothing and a sum will be handed over to meet the expense of removal during a temporary vacation of their house and transfer to a camp. A blanket is to be given and in special cases a charpoy will be provided. For these purposes of so-called discretional relief there will be officers appointed. This administration of plague measures sounds very kind and charitable and certainly contrasts very strongly with that which has been done before. It took many years in

England before the working classes got over their aversion to enter the hospitals and it is not likely that the passive opposition to all plague measures by which the natives express their dislike will be overcome very readily.

A notice prohibiting the passage of suspicious persons to Malabar Hill and the neighbourhood has been published in the Government *Gazette*. Plague authorities specially appointed by the Municipal Commissioner of Bombay for the purpose are authorised to prevent the passage of suspicious persons and their clothing, baggage, &c., into the local area defined. As the value of even a rigid medical inspection of all travellers is very limited it is manifest that an order of the above character where there is no cordon round the area concerned or medical inspection of persons entering it is practically worthless.

Acting on the assumption that the rat is an active agent in propagating plague the Health Department in Bombay city have organised a systematic destruction of rats. Last week 5263 were destroyed. After the first outbreak the rat population was nearly exterminated. In the interval before the next outbreak this rat population was partially regenerated but was again reduced by the recrudescence of plague last spring. For some months past it has been evident that the normal rat population of Bombay was fast returning and the finding of considerable numbers of dead and dying rats in certain parts was regarded with apprehension.

The Plague Commission opened its sittings at Bangalore on Dec. 12th. Colonel Robertson, the British resident, was first examined. He described the course of the outbreak and the ordinary recognised measures which were adopted. He referred to the difficulties of administration due to the stress of work and to the strikes and to the troubles about the water-supply. The police and military aid had been invoked because a certain show of force was required to support the medical officers whom it was hazardous to send into the bazaars inadequately escorted. He also referred to the general opposition to plague measures. Captain Roe, R.E., the chief plague officer of the cantonment, was the next witness examined. He thought that segregation had been a failure. When a case was reported he found that half the people of the house ran away. The fear of the natives was due to the dread of disinfection and the loss of property. Major Deane, R.A.M.C., could not say that infection could be conveyed one way more than another. He thought that people attending plague patients in hospitals might carry infection through their clothing. Colonel T. McGann gave evidence concerning inoculation in the district. Colonel Dobson, I.M.S., referred to various antiseptics which had been used. He had noticed that plague ran a milder course amongst inoculated persons. He thought that no special treatment by drugs served to do any good. The proceedings of the Plague Commission not being open to the public information concerning the evidence tendered is only available through the press, but it is possible to cull the chief points of medical interest from the reports published. So far the information obtained is very unsatisfactory, and the evidence may be described as merely the brief verbal report of plague officials brought up to date.

The city of Bangalore, with a population of 60,000 persons, seems to have suffered very severely from plague. Up to Dec. 2nd there had been 2985 cases and 2361 deaths. The highest total on one day was reached on Nov. 11th, when 122 cases were reported. The plague is making serious headway in the adjacent towns. Madras city gets a few cases imported from time to time. Up to date 4609 persons have been inoculated there.

The promulgation of new rules by the Mysore Durbar has given great impetus to inoculation, some 18,000 persons having been operated upon in the city of Mysore during the past two weeks. There are no less than 150 prisoners to be tried in connexion with the plague riots in Seringapatam.

The Bombay Presidency returns are more favourable. From 4604 attacks and 3690 deaths two weeks ago the figures have fallen to 3923 attacks and 3178 deaths. It will be seen that the death-rate still keeps at about 75 per cent. The total number of cases since September, 1896, is 196,458, and the deaths 155,054. There has been a slight but steady increase in the number of cases in Bombay city during the past three weeks, the deaths for last week from plague being 61. Karachi still occasionally reports a few cases. A few cases have also been again imported into Poona. In Satara the attacks have increased from 310 to 405 and the deaths from 264 to 321. In the Dharwar district the epidemic appears to be rapidly declining. Kolapur reports 548 attacks and 433 deaths, as against 622 attacks and 478 deaths the week previously. There are still 378 infected villages in the Mofussil. The statement of plague cases and deaths reported from stations at which railway medical inspections are carried out shows only 14 cases detected.

Dec. 17th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Health of Edinburgh for 1898.

THE mortality in Edinburgh for the past year was 5321, making the death-rate 17·99 per 1000. There were 1602 deaths of children under five years of age and 1485 of persons above sixty years. 256 were above eighty years and 25 above ninety years. Diseases of the chest accounted for 1720 deaths and zymotic diseases for 413, of which 9 were due to typhus fever, 27 to typhoid fever, 38 to diphtheria, 72 to scarlet fever, 134 to measles, 124 to whooping-cough, and 9 to erysipelas. The notifications for the year numbered 7368. These included 66 typhus fever, 244 typhoid fever, 269 diphtheria, 6 small-pox, 2388 scarlet fever, and 4395 measles. The number of cases treated in the City Hospital during the year was 2770. The deaths amounted to 5·30 per cent. of the cases admitted.

Health of Leith for 1898.

The number of deaths registered during the past year was 1334, making a death rate of 17 per 1000; 542 deaths were of children under five years of age and 350 of those under one year; 64 deaths were from infectious disease, this not, however, including the deaths in the fever hospital. Intimations under the Notification Act numbered 651, 354 being of scarlet fever, 112 erysipelas, 96 diphtheria, 67 typhoid fever, 8 puerperal fever, 7 small-pox, 5 membranous croup, and 2 continued fever.

Edinburgh Royal Infirmary.

The annual meeting of the court of contributors to the Edinburgh Royal Infirmary was held on Monday, Jan. 2nd. The annual report was submitted by the treasurer. From this report it appeared that the total number of patients treated during the year amounted to 9434, of whom 4277 were medical and 4499 surgical. The number of deaths was 699. There was a decrease of 194 on the total number of patients treated. The average daily number of patients was 698. The largest number on any one date was 749 and the lowest 600. The average time each patient was under treatment was twenty-seven days; 177 deaths took place within forty-eight hours after admission. Deducting these the percentage of deaths was 5·5. In the out-patient department 29,919 cases were attended to. The total ordinary receipts amounted to £30,383. The ordinary expenditure amounted to £41,885 being an increase of £800 over the previous year. The bulk of that increase was under the head of wages to tradesmen, nurses, &c. The annual cost of each patient was £60 0*s.* 1½*d.* The extraordinary receipts, consisting of legacies and donations of £100 and upwards, amounted to £80,965.

Jan. 3rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Children's Hospital, Temple-street, Dublin.

THE meeting in connexion with the Christmas festivities at the Children's Hospital on Dec. 28th which her Excellency the Countess Cadogan had kindly promised to honour by her patronage and presence was unavoidably postponed on account of the occurrence in the wards of the hospital of two cases which were suspected of being of an infectious nature.

Medical Appointments to the Dublin, Wicklow, and Wexford Railway Company.

The directors of the Dublin, Wicklow, and Wexford Railway Company have recently appointed Mr. James Raverty to be medical officer of the Bray district, in place of

Dr. Hamilton, deceased. Mr. P. A. McDermott, surgeon to St. Michael's Hospital, has been appointed medical attendant in the Kingstown district.

Belfast in 1899.

Owing to the area which, under a new Bill, was added to Belfast last year its size has increased from 6806 to 16,503 acres and its population from 300,000 to about 340,000. In old Belfast during the past year 3710 new buildings were erected, and 837 in the new area. The total ratable valuation of the old city is now £999,619, that of the added area is £114.280, which brings the total ratable valuation of the City of Belfast at the beginning of this year to £1,124,852.

Belfast Dispensary Districts.

At a meeting of the Belfast Dispensary Committee held on Jan. 2nd Dr. Whitaker (medical officer of health) suggested that there should be a general re-arrangement of the dispensary districts as this was, in his opinion, necessary owing to their growth in recent years. In Dublin, with a population of 245,000, he said, there were 15 dispensary medical officers, while in Belfast with 350,000 inhabitants they had only 12. The matter will probably have to be discussed again, as owing to the added area the work of the dispensary doctors in certain districts has been much increased.

Health of Belfast.

The Public Health Committee have been considering Dr. Lorrain Smith's special report and the whole matter will be dealt with at a special meeting of the city corporation. It appears from Dr. Whitaker's report presented to the Belfast council on Jan. 2nd that between Nov. 20th and Dec. 17th, 1898, 158 cases of typhoid fever, 71 of scarlet fever, 59 of simple continued fever, 29 of diphtheria, 27 of erysipelas, 7 of puerperal fever, and 5 of membranous croup were notified. There were 55 deaths from zymotic disease, 70 from phthisis, and 172 from diseases of the respiratory organs. The annual death-rate from all causes was 25·6, that for children under one year old 6·1, and that for those of sixty years and upwards 4·5 per 1000 of the inhabitants. The notifications of typhoid fever during the four weeks were less than half of those noted in the report presented on Dec. 1st. Scarlet fever is now rife in Belfast, but of a mild type. In the introductory address (at the first meeting of the council this year) the Lord Mayor (Sir James Henderson) stated that in 1897 the money spent in the Public Health Department was £17,746, while for 1899 the estimate is £29,475—a great and necessary increase.

The Meteorology of 1898.

During the year 1898 the total rainfall in the north of Ireland was 39·34 inches, the average for the previous fourteen years being 34·80 inches. Rain fell on 228 days. February was the wettest month (5·05 inches), September coming next (5 01 inches). The day on which there was the greatest rainfall (1·47 inches) was Nov. 23rd. The mean temperature was highest in August (59° F.) and it was lowest during February (40·6° F.). These statistics are from a record made at Coleraine.

The Battle of the Clubs at Cork.

The mayor of Cork and Mr. Long, chairman of the Queenstown Town Commissioners, have written jointly to the secretary of the Cork Medical Association stating that they would render assistance in settling the dispute between the medical men of the city and the clubs and adding that it would afford them pleasure to discuss the situation with a deputation appointed by the profession. The medical association, though aware that Mr. Long held the position of Grand Master of the Oddfellows of the South of Ireland and that he was therefore in a sense an interested party, decided that in all courtesy they should act on the suggestion conveyed to them, and accordingly Professor S. O'Sullivan and Dr. Edward Magner were appointed delegates. During the conference Mr. Long suggested the following terms: that the only remaining imported club medical officer should resign his clubs but be eligible for re-election; that instead of the original medical officers of the clubs being reinstated the club appointments should be open to competition; and that the imported medical man should be met in consultation by members of the profession in Cork. The medical delegates then stated that the proposal to throw the club appointments open to competition could not be entertained, as it would imply the desertion by the medical association of the club medical officers who had resigned those appointments in the interests of the profession at large. The delegates further added that under no possible combination of circumstances would the members of the Cork Medical Association consent to meet the imported medical man either professionally or socially. There is no doubt that one of the best strategic moves made by the profession in Cork has been the formation of the Cork Medical Benefit Association which although only in its infancy has had a successful career, as proved by the balance-sheet recently issued. One of the fundamental rules of this association is that no one having an income of over £100 a year shall be eligible for membership.

Jan. 3rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Hospital Physicians and Alcoholism.

AT the meeting of the Hospitals Medical Society held on Dec. 15th M. Legendre, alarmed by the ever-increasing amount of drunkenness, asked if it would not be possible to withstand this by means of meetings, insistence on the dangers of alcohol, and by what he considered an even better method, that of getting up for the instruction of patients lantern shows with exhibitions of anatomical preparations to show the dangers of alcohol. M. Legendre has had printed for the use of all his patients a litle leaflet setting forth in the clearest manner the evils which follow the use of alcohol. He gives one of these to every patient of his both on admission to hospital and when he is discharged. Besides this he has had them stuck up all over his wards and even in the lavatories as being quiet places where the patients will have leisure to read them with the object of bringing about a veritable obsession against alcohol. The text runs as follows: "Most of the diseases treated in the hospitals arise from alcoholic drinks—that is to say, they are either caused or aggravated by the abuse of alcohol. All alcoholic drinks are dangerous, and the most harmful are those which contain aromatics in addition to alcohol—as, for instance, *absinthe* and the so-called aperients called *amers.* Alcoholic drinks are more dangerous when taken on an empty stomach or between meals. A man necessarily becomes an alcoholic—i.e., slowly poisoned by alcohol—even if he never gets drunk, when every day he drinks alcohol in the form of liqueur or too much wine, more than one litre per diem. Alcohol is a poison the habitual use of which destroys more or less quickly, but none the less certainly, all the organs most necessary to life—the stomach, the liver, the kidneys, the blood-vessels, the heart, and the brain. Alcohol excites man but does not strengthen him. It is no substitute for food, but takes away the taste for it. Those who often drink alcohol or too much wine (more than one litre a day) are much more liable to illness, and when ill are much worse, for the disease is often complicated with fatal delirium. Alcohol is a frequent cause of consumption by its power of weakening the lungs. Every year we see patients who attend the hospitals for alcoholism come back some months later suffering from consumption. Fathers and mothers who drink often have children who are deformed or idiots or who die from fits."

The Broca Hospital.

On Dec. 21st the President of the Republic visited the Broca Hospital. He was received by the officials and heads of the various departments. The building, of which the very look is distressing, is in a most deplorable condition, being very deficient not only as regards its hygienic state, but even in regard to matters of ordinary decency. The wards are all very low and the paint and plaster are peeling off the walls. So the whole of the medical staff greeted M. Faure on his arrival with protests and complaints. With one voice the staff demanded that the building should be razed. Unfortunately the Broca Hospital is not the only one in this condition, for there are quite a dozen others in a like state. M. Faure, however, soon left this portion of the hospital and passed on to inspect the new Pascal block which is devoted to the department presided over by M. Pozzi. The official architect in his plans only carried out the ideas of M. Pozzi. The walls of the wards are covered with pictures and frescoes signed by such artists as Clairin, Lauzet, Girard, and Dubeuf, and M. Pozzi superintended the building day by day as it progressed. The building is entirely given up to the diseases of women. The building includes three distinct departments, but all these communicate freely with one another. There are rooms for consultations, the wards for the patients, a theatre, and operating rooms. The consultation rooms consist of a large waiting-hall from which a passage leads to a room for examination, an electrical department, and a room for massage. There are also a cloak-room for students, a private room for the surgeon, and rooms for douches, dressings, and speculum cases. 4 wards are allotted to hospital patients, 3 of which are gynæcological and 1 is reserved for syphilitic obstetric cases. There are also isolation wards with 1 or 2 beds and 1 special isolation ward for infectious cases. Altogether there are 66 beds. For lectures and operations there is a large theatre which also serves as an operating theatre for septic cases; but besides this there is another operating theatre, a sterilising room with the instrument cabinet, and an anæsthetising room. The floors throughout are tiled and not floored with planking, while the walls are covered with an unchangeable plaster. Heating is carried out by means of low-pressure steam apparatus and the electric light is supplied. The wards all look into the gardens. Every article of furniture is of iron, wood, and porcelain and will all take to pieces for sterilisation. The total cost was 440,000 francs, this being the amount originally allotted for expenses. 128,000 francs were allotted for the waiting-rooms, the remainder of the building and the theatre coming to 312,000 francs. Thus 66 beds were provided at a cost of about 4800 francs per bed—very little considering that in the most modern hospital, the Hôpital Boucicaut, the amount per bed will be 18,750 francs.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Iodoformogen.

OF the numerous chemical compounds manufactured commercially as substitutes for iodoform the greater part have proved to be of little value, and in spite of its unpleasant odour and its irritating action on the skin iodoform has for many years maintained its position as the most energetic of the antiseptic powders. Messrs. Knoll and Co., manufacturing chemists at Ludwigshafen, have, however, succeeded in producing a combination of iodoform with albumin which is in some respects superior to ordinary iodoform and is termed iodoformogen. It contains 10 per cent. of iodoform, has a yellow colour, may be sterilised at 105° C. (221° F.) without undergoing any alteration, is not soluble in water, and has hardly any smell. In addition to this it is more than three times lighter than iodoform and is lower in price. Dr. Wagner of the Stuttgart Hospital states in the *Munchener Medicinische Wochenschrift* that neither eczema nor toxic symptoms have occurred when it has been used. Eczema even disappeared when treated with iodoformogen. There is very little danger of it causing toxic symptoms as it contains only 10 per cent. of iodoform which owing to its combination with albumin is absorbed but slowly. The new preparation therefore seems to possess several distinct advantages.

Carbolic Acid Injections in Anthrax.

An interesting case of anthrax has been described in the *Munchener Medicinische Wochenschrift* by Dr. Strubell of the University Hospital of Jena. The patient was a tanner, forty-one years of age. Six days before coming under observation he observed on the tip of his nose a small blister which very soon became black. He continued at work till the day of his admission to hospital when he was seized with rigors and feverish symptoms. On his arrival at the hospital the lower part of his nose was extremely swollen, the skin was gangrenous, and there was marked infiltration of the surrounding parts. Typical bacilli of anthrax were present in the secretion of the nose. All the submaxillary glands were swollen and the spleen was enlarged. No bacilli, however, could be found in the blood and inoculations of mice and guinea-pigs with the blood had no result. Owing to the unfavourable state of the patient no operation was performed, but, as suggested by Russian observers, injections of a 3 per cent. solution of carbolic acid were made into the necrotic tissue of the nose, the surrounding tissues, and the infiltrated glands. Hot poultices at a temperature of from 50° to 55° C. (from 122° to 131° F.) were also applied night and day, being changed every ten minutes. Under this treatment the man's condition became better, so that within ten days a line of demarcation was formed between the tip of the nose and the surrounding tissues. The injections, however, were continued as the œdema had extended to the clavicles and there was therefore a possibility of general septicæmia supervening. After three weeks the infiltration at last stopped and the glands decreased, so that the injection was no longer necessary. The tip of the nose healed up with only very slight cicatrisations. The case is very interesting both on account of the unusual position of the lesion and also on account of the favourable issue. Although the prognosis was unfavourable conservative treatment succeeded in saving the patient. If an operation had been performed the result would certainly have been mutilation of the patient's face by resection of the nose, whilst under the injections healing took place without this disfigurement. The patient had more than 400 injections of 1 gramme of a 3 per cent. solution of carbolic acid without any toxic symptoms being produced. Dr. Strubell is of opinion that the hot poultices assisted in destroying the anthrax bacilli, for it is known that the latter are killed by a temperature of 42° C.

A Surgeon Charged with Neglect.

Some of the difficulties connected with surgical practice are very well illustrated by the following case quoted in the *Aerztliche Sachverstandige Zeitung.* An intoxicated working man was wounded in the neck in a scuffle and was brought to a surgeon who dressed the wounds and attended him for ten days in his (the patient's) residence. As the man's state became worse he was taken to a hospital where paresis of the right arm and motor aphasia were recognised. Seven days after admission trephining was performed and led to the discovery of a broken knife-blade which had perforated the dura mater and was fixed in the skull. Round the blade there was an abscess which increased in size after the removal of the foreign body and finally led to a fatal issue. The surgeon who had first attended the case was prosecuted for professional neglect and two other surgeons had to appear as experts before the court. They were asked by the prosecution (1) whether the defendant had sufficiently examined the wounds, and (2) whether if the blade had been at once removed from the skull the patient's life would have been saved. The answers to these questions were as follows—first, that there was no reason to believe that the surgeon had not sufficiently examined the wound, as he had not been informed that a knife had been used in the fight, and that even if he had introduced a probe into the wound there was little probability that the blade would have been detected as it was inside the skull; secondly, that even if the blade had been removed earlier the patient would probably have died, the knife not being free from pyogenic germs. The court agreed with the opinions of the expert witnesses and a verdict of "Not guilty" was returned

Jan 1st.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Public Hygiene.

THE year opens reassuringly for the "salus populi." I have had occasion to draw attention to the fact that zymotic and epidemic disease is never quite absent from Italy, mainly owing to the abject impecuniosity of the communes which are thus unable to afford the sanitary measures prescribed by sound hygiene. These communes are expected to carry out the provisions of the "Legge Sanitaria," but their predicament is simply that of "non possumus"—"our poverty but not our will consents." The Government, appealed to, like Hercules, to lift the sanitary machine out of the rut, pleads in its turn "non possumus" and protests that it has not at its disposal the funds needed for the prophylaxis of the whole kingdom. There are 8263 communes in Italy (mainland and islands) and the Ministry of the Interior has only 8000 lire Italiane set apart for prophylactic purposes—little over 6*d*. for each commune. In October last the Premier (General Pelloux) who is also Minister of the Interior promised to devise some means for palliating, if

William Thomson mentioned a district which measured a hundred square miles where there was but one dispensary medical officer and he was seventy years old. He could not retire, for the population was so poor that it was impossible to get any private practice. These are facts well known to the Irish Local Government Board, but that Board has never moved in the matter. The policy seems to be not to deal with any question unless absolutely forced to do so, and unfortunately the medical men in Ireland are lacking in cohesion; they do not work together as a body. Such efforts as have been made to unite the profession have so far failed and therefore there has not been a strong enough pressure brought to bear upon the Irish Local Government Board. While the medical men are content to submit to unjust treatment the Government will not go out of its way to redress the grievances of the dispensary medical officers.

The reform which many medical men themselves desire is that the dispensary medical officer should become a civil servant in the employ of the Government and not of the local authority. Candidates should be subjected to a special examination in regard to public health questions and as to their capacity to act as surgeons for the police, the prisons, the bridewells, the coastguards, &c. These functions added to the duties of dispensary medical officers would constitute a fair total income, making it worth while for high-class men to apply and to qualify for the special duties. As it is the local authorities only pay half the cost of the medicines and the salaries of the dispensary medical officers. The other half is paid by the central authority, therefore the Local Government Board of Ireland has as much right to nominate as the local authorities. If Ireland is to be civilised from the sanitary point of view it would be worth while for the Exchequer to pay more than half the cost so that the central authority could appoint men who would be competent and independent of local intrigues and pressure. This is more needed in regard to public health than in respect of the abuse by which medicine for others than the poor is obtained out of the rates. The Poor-law guardians and the dispensary committee-men are themselves often the chief offenders. They distribute both white and red medical relief tickets to their well-to-do customers and to their own families and otherwise commit abuses. They often set sanitary laws at defiance and have sometimes even been paid for their votes in the election of a dispensary medical officer. Under these circumstances these petty local bodies should be deprived of the power of nominating and tyrannising over the dispensary medical officers. They have given sufficient proof of the improper use which they make of such powers. For instance, according to the Act a medical officer should receive a guinea for attending a court in regard to a prosecution or to obtain a magistrate's order for compulsory burial, &c. But now it will be seen on referring to advertisements that the local authorities require applicants to contract themselves out of these advantages. Thus, for instance, the Rathdrum Union, Aughrim Dispensary district, recently advertised for a medical officer and the advertisement stated that the salary would be "£120 a year as medical officer and £15 a year as medical officer of health, such salaries to be taken to include remuneration for all services rendered under the Labourers Act and Sanitary Act as well as the Medical Charities Act, and the payment of a substitute when the doctor is absent owing to other cause than ill-health caught in the discharge of his duties." Again, the Sligo Union advertised for a medical officer for the Cliffoney Dispensary district. The salary was £100 and £20 more as medical officer of health, together with the usual vaccination and registration fees. Then comes this clause in the advertisement: "The person appointed must attend and give evidence in all sanitary prosecutions instituted by the sanitary authorities without any additional remuneration." It need scarcely be explained that these conditions will tend to reduce the number of prosecutions. A medical officer of health who only receives £20 a year cannot be expected to spend many days in law courts. But if he received an extra guinea for each case there might be some chance of prosecutions being instituted. As explained on a previous occasion the local authorities are, in the main, desirous of preventing any sanitary reform. The advertisements quoted above are evidence of the little concern felt in this respect and are in direct opposition to the spirit of sanitary legislation since they call upon the candidates to contract themselves out of the Sanitary Act. The Legislature, to encourage the prosecution of persons who offended against the laws of health, stipulated that the medical officer who gave evidence, &c., should receive a fee of a guinea. But the Sligo Board of Guardians sets itself above the Imperial Parliament and Government. It says that the medical officer shall not receive these guinea fees and by such an act it seems anxious to discourage instead of encourage prosecutions under the sanitary and other laws enacted for the benefit of the public health. Such advertisements should awaken the attention of the Government for they certainly suggest a desire to avoid applying the laws of the land. But they also indicate that there is good reason for not trusting these petty local bodies with the appointment of such important functionaries as the medical officers of health and the dispensary medical officers.

Then, again, in most other occupations the salary increases, but this is not the case with the dispensary medical officers and no difference is made between junior and senior officers. Thus a dispensary medical officer for a Dublin district told me that he was appointed thirty-five years ago and yet he receives to-day identically the same salary as he did on the first year of his appointment. Indeed he is, if anything, poorer, for money is now cheaper than it was when first he came into office. If, however, the appointments were in the hands of the central authority young men could be sent at first to the less important districts and as they gained in experience they might be promoted to more important and better paid districts. Thus a spirit of emulation would be engendered and there might at last be reasonable hope of seeing the public health laws applied with some show of vigour. Then when there were cases of abuse the dispensary medical officer would not depend on the local authority for redress. Even in Dublin tickets for dispensary medical attendance can be obtained from publicans or their potboys. One medical officer told me that he had to attend the family of a man who was earning £5 a week. Well paid workmen who are able to keep greyhounds for racing purposes also rank among his dispensary patients. It was of no use protesting—these people did not care. They would not even join a benefit society and pay a penny per week for medical aid. The relieving officers also gave tickets and seemed to think that they could not refuse them. Yet theoretically the person who gives a ticket for dispensary medical attendance is supposed to make an inquiry and to assure himself that the patient cannot afford to pay a practitioner's fee or to join a provident dispensary or benefit society. In view of all these facts it is evident that the system of dispensary medical aid is grossly abused, that it works most unsatisfactorily, and that sweeping reforms are urgently needed. The Irish Medical Association has brought this matter forward on several occasions, and though these efforts have met with but little success they must be continued and with even more energy.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Hospital Sunday Fund.

A MEETING of the committee of the Hospital Sunday Fund was held on Jan. 5th under the presidency of the Lord Mayor (Alderman Beale). The report showed that there was an increase in the total number of places of worship contributing, being 280 as compared with 254 in 1896, when, as now, the collections were given to the General Hospital. The gross receipts for this hospital in 1896 amounted to £4422 1*s.* 10*d.* and this year to £5245 15*s.* 8*d.* The Lord Mayor expressed the hope that the movement might be placed on a basis which would appeal in a broader spirit to the whole of the people and contrasted it with the Hospital Saturday movement. Still, it was satisfactory to know that the number of life governors and annual subscribers had been increased. It was pointed out that the expenditure of the General Hospital for the year ending Dec. 31st was £23,870, and towards that sum the committee had received £17,993, thus leaving a deficiency of £5877. They had received that day £4800, but they could only apply one-third of that sum toward the expenditure of the past year, still leaving a deficit.

Poisoning by Hyssop.

A singular case lately formed the subject of a coroner's inquiry where a pregnant woman made an infusion of a pennyworth of hyssop after taking which she died. She was stated to have been in bad health and the subject of Bright's disease. It is generally believed that the plants of the order to which this belongs—the Labiatæ—have no deleterious qualities, being carminatives and antispasmodics. However this may be as a rule, the medical witness at the inquest expressed his belief that the hyssop was the cause of the patient's death and the jury adopted his opinion, returning a verdict accordingly.

Electric Light at the Queen's Hospital.

The out-patient hall of the Queen's Hospital had the electric light service inaugurated on Jan. 6th. An installation of 350 sixteen-candle power incandescent lights was provided and pronounced a great success. In addition, all the medical and surgical officers' rooms, the theatre, the chapel, and the administrative departments are fitted with the same kind of light.

Adulteration of Gin.

At a local police-court on Jan. 3rd a publican was summoned for selling gin two degrees under the proof allowed by the law. The public analyst for Warwick said that he was unable to give the exact percentages of water and alcohol with the quantity of added water. The report of the analyst for the county of Worcester showed that the gin was 33·45 under proof and was therefore over the maximum standard of proof allowed by law. The defence submitted that the certificate should have given the percentages of water and spirit and it was therefore contended that there was no case as the certificate did not comply with that requirement. The case was dismissed.

Jan. 10th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Purification of Gas.

THOUGH gas is so great a convenience that even now with electric lighting on all sides the civilised world would be the worse for its extinction it must also be said that its impurities render it a great nuisance. In Manchester the large proportion of sulphur in the gas has for a long time been an annoyance and a reproach and it seems as if there were a prospect of its being still further increased. A question was asked at the last meeting of the city council as to what steps, if any, were being taken to reduce the abnormally high proportion of sulphur in the gas delivered and an ingenuous alderman said that there was no danger of the matter being overlooked. "It had had the serious attention of the gas committee ever since he had been a member." However serious the attention may have been it cannot have been serious enough for it has not removed the sulphur. And then another alderman, the chairman of the gas committee, rose up in his place and said that after much inquiry they had adopted a different process of carbonisation of coal—"the regenerator process"—which had been extremely satisfactory from an economical point of view, for they got 500 cubic feet more of gas per ton of coal carbonised. "But unfortunately it brought in its train a very considerable increase of sulphur," and as according to the scientific authorities "there was only one mode of purifying the gas from sulphur, and that was by lime, they would have to adopt the lime process." He thought they would be able to get a market for the lime and "that the Ship Canal would be of use in this respect." It is to be hoped that it will not be used to poison the fish at the mouth of the Mersey. It is a pity that the chemists who are great at the production of sulphuretted hydrogen cannot find some less cumbrous method of dealing with it.

Northwich and its late Medical Officer of Health.

An occurrence took place at Northwich recently which emphasises the desirability in the interests of justice and fairplay and also of the public weal of delivering medical officers of health from having their tenure of office subject to the caprice or self-interest of local cliques. It is reported in the *Manchester Courier* of Jan. 7th that "a heated discussion took place at the meeting of the Northwich Rural Council yesterday with reference to the discharge of Mr. Garstang, who for three years had occupied the position of medical officer of health of the district." The Local Government Board having "been asked to sanction the appointment of Mr. Gough wrote for the observations of the authority upon a letter received from Mr. Garstang, in which he said he feared his future prospects might be damaged unless some explanation of the council's last action was afforded." The clerk submitted the draft of a letter saying that there had not been the slightest intention of casting any reflection upon Mr. Garstang. After a warm debate, during which it was urged by several members "that the only reason that could be adduced for the discharge of Mr. Garstang was that he had done his duty too honestly and fearlessly," it was decided that no reasons should be given—which it is quite easy to understand as there seems to have been none to give—"and the simple form of reply was accepted by 14 votes to 8." In far too many places the medical officership of health is robbed of all its value as a safeguard of the public health from its being held at the mercy of those who may consider that a regard for their own supposed interests is a higher, or at all events a stronger, motive than regard for the life or health of their neighbours. It may be hoped that they are not always in the proportion of 14 to 8 over the conscientious members of the rural councils and that sometimes ignorance may be the mainspring of their actions, but however that may be the too frequent result is that if he does his duty the medical officer of health soon receives notice to quit.

Jan. 10th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Opening of the New Wing of the Longmore Hospital for Incurables, Edinburgh.

ON the afternoon of Jan. 5th Her Grace the Duchess of Buccleuch performed the ceremony of opening the new wing of the Longmore Hospital. The Marquis of Lothian presided at the ceremony and in opening the proceedings he gave a short outline of the progress of the institution. The central part of the hospital, which was the first part erected, was opened in 1880. The present east wing was opened in 1891 by the Duke of York and Princess May, at which time a children's ward was established. The directors had been enabled to meet the expense of the present extension by the liberal bequest of Mr. Peter Waddell. The work of the institution had been begun in 1875 with 22 patients; now they had accommodation for 150 patients. Mr. J. A. Wenley, chairman of the house committee, referred to the history of the hospital and to the various legacies and donations which had enabled the directors to carry forward the work of the institution. In addition to the new wing they had a new laundry, a new kitchen, a new chapel and mortuary, and the whole building was now lighted by electric light. The cost of all these improvements had been about £25,000. The working expenditure of the hospital had largely to be met from annual subscriptions and as the amount necessary for keeping it up would now be increased they would have to rely on the generosity of the public to meet this increase. To carry on the new wing they would need about £600 annually in addition to their former revenue. The Duchess of Buccleuch, after speaking for a few minutes, declared the new wing open. Mr. D. M. Westland, on proposing a vote of thanks to the Duchess, presented her with a small key made of Scottish gold. The new wing, two storeys in height with a basement, is attached to the main building by a wide corridor of iron and glass. The ground floor is set apart for phthisical patients, while the upper floor is intended for the reception of cases of cancer. The kitchen premises have been reconstructed and additional rooms have been provided above the kitchen for the nursing staff. The new washing houses and laundries are in a separate building and the drainage has been entirely remodelled, iron pipes having been substituted for fire-clay ones. The main drains and connexions are placed in subways so as to be easy of access, and the drainage subway has been utilised to give access to the mortuary buildings which are placed at the Causewayside entrance to the hospital grounds. They consist of a post-mortem room and mortuary lined to the ceiling with glazed tiles, a chapel, and a specimen room, with a dark room for photographic purposes attached.

The University of Edinburgh: Statistics for the Year 1898.

The total number of matriculated students during the past year was 2813. Of this number 1387 (including 6 women) were enrolled in the Faculty of Medicine. The number of women attending extra-academical lectures with a view to graduation in the University was 89. Of the students of medicine in the University 584, or over 42 per cent., belonged to Scotland; 374, or 27 per cent., came from England or Wales; 94 from Ireland, 60 from India, 231 from British colonies, and 44 from foreign countries. During 1898 the following degrees in medicine had been conferred: M.B., C.M., 60 (including 2 women); M.B., Ch.B., 138 (including 6 women); M.D., 73 (including 1 woman). There had been 29 recipients of the honorary degree of LL.D. during the year, this large number being accounted for by the visit to Edinburgh of the British Medical Association. Among the honorary graduates was Lord Kitchener of Khartoum who had received the degree at a special graduation ceremonial held in November. The total annual value of the university fellowships, scholarships, bursaries, and prizes now amounted to £17,790. Of this £3000 were distributed in the Faculty of Medicine. In addition to the above a sum of upwards of £600, the income of the Earl of Moray Endowment Fund, was annually available for original research.

Extension of the Montrose Asylum.

At the monthly meeting of the managers of the Sunnyside Royal Lunatic Asylum in Montrose on Jan. 3rd the question of extension of the asylum again came up for consideration. Under the new regulations as to the number of cubic feet of air-space for each patient the asylum was at present in the condition of having 124 patients too many. In the report of Dr. Fraser, Commissioner in Lunacy, attention was drawn to the overcrowded state of the asylum. The asylum house committee recommended that in order to reduce the present overcrowding two houses should be erected on the high ground behind the present asylum, each to accommodate from 30 to 50 patients. After discussion the meeting agreed to the recommendation of the committee and instructed them to carry out the "forward policy" with all speed.

The University of Aberdeen.

The Aberdeen Town Council has disapproved of the plans for the "restoration" of old Greyfriars Church, the majority being in favour of demolishing the structure and erecting a new church on another site, as contemplated by the Act of Parliament authorising the extension of the University buildings at Marischal College. Owing to this resolution steps are being taken to put the University in possession of funds to carry on the original extension scheme, it being feared that Mr. C. W. Mitchell, Jesmond Towers, Newcastle-on-Tyne, who offered (at first anonymously) a contribution of £10,000 on the condition of old Greyfriars Church, which is so far a pre-Reformation building, being retained in a "restored" form, may now withdraw the proferred subscription.—The medical and other classes resumed work this week after the Christmas vacation.

Aberdeen Hospital Sunday.

New Year's day was Hospital Sunday in Aberdeen, though several of the church collections were either not made or not completed till Jan. 8th. The collections (from 62 churches) on Jan. 1st alone amounted to £1155 and altogether the Royal Infirmary will receive several hundreds of pounds more than it received last year.

Jan 10th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Prevention of Tuberculosis in Dublin.

A LONG letter has recently appeared in the columns of the *Irish Times* from the pen of Professor Antony Roche, lecturer on public health at the Medical School of the Catholic University, referring to the meeting of the National Association for the Prevention of Consumption lately held under the presidency of the Prince of Wales and suggesting that the occasion should have a special interest for the inhabitants of Dublin—a city in which the mortality from tuberculous disease is relatively high, being much higher than that which is shown to exist, for instance, in London. The death-rate it appears from this class of disease has, moreover, continued at a high level in Dublin notwithstanding that it has slowly declined in many other cities and in the country at large. Mr. Roche therefore considers that the metropolis of Ireland is especially in need of remedial measures as regards that department of public health. The isolation of cases of phthisis is a matter of very considerable difficulty and expense, and if we include under that term all the surgical as well as the medical manifestations of tuberculosis it seems absurd to hope that separation or isolation can prove a really practical and effective measure for years to come. The reason of this is to be found of course in the fact that although the disease is distinctly capable of propagation and properly ranks as an infectious disorder it differs from all the other affections so classed in this country in its chronicity, and in the fact that subjects of tuberculous disease are often moving about and attending to their business for years before they finally become invalided. Mr. Roche suggests some measures of a practical character which might be easily and without much expense adopted in Dublin—amongst others the disinfection of houses in which tuberculous patients have died, the inspection of the city meat-supply, the exclusion of dairy-yards from within the city boundary, the treatment of all milch cows with tuberculin in order to ascertain whether they are entirely free from tuberculous disease, &c.

The Dental Hospital of Ireland.

A general meeting of the governors and subscribers of the Dental Hospital of Ireland was held in the new building in Lincoln-place on Jan. 9th to approve of the memorandum and articles of association for the purpose of incorporating the institution under the Companies Acts, 1867, and to nominate members of the Executive Committee to subscribe the memorandum and articles for the purpose of incorporation. Mr. James J. Pollock, J.P., filled the chair and received the names of many influential persons nominated to subscribe the memorandum and articles of association. It appears that when the institution was in York-street it was only a voluntary society without any incorporation and after removal to the new building in Lincoln-place it remained so. The governors now wish to look for some constitutive and legal status so that they may be no longer merely a voluntarily formed body and in order to bring this about they are taking measures to register the hospital as a private company under the Acts of 1867. The effect of this would be that the institution could not be worked for profit but for the public benefit. A resolution approving of the steps taken was passed, the object of the incorporation being to take over the existing hospital as it stands and to carry on there in future the business of the Incorporated Dental Hospital of Ireland.

Prosecution under the Public Health Act.

An important case came on at the Belfast Police Courts on Jan. 3rd when the corporation summoned a woman for permitting a new building to be occupied as a dwelling-house before the house drainage had been completed and the house approved of by the city surveyor as fit for habitation. It would appear that the defendant had passed plans with the corporation for the erection of three houses, these plans showing the drains connected with the sewer. No drains had been made and notwithstanding the warnings of the corporation the woman and her family had gone into occupation of one of the houses. The magistrates entered a nominal penalty of 40s. as a company had been bound under agreement with the corporation to make the sewer and the defendant had purchased the ground believing this agreement existed. The company had, however, changed hands and the new owners refused to carry out the covenant.

The Ulster Medical Society.

The monthly meeting of the Ulster Medical Society was held on Jan. 6th in the Museum, Belfast, when Dr. Cecil Shaw read a paper on Post-nasal Growths, giving an account of the etiology, diagnosis, and treatment of these adenoid tumours. Dr. E. C. Bigger and Dr. Robert Campbell read notes of a case of Operation for Perforated Typhoid Ulcer. The patient who was a man was in the Union Hospital under Dr. Bigger and symptoms of perforation occurred about the third week of the disease. The abdomen was opened and a perforated ulcer was discovered in the ilium about

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Jan. 11th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Waste in the Assistance Publique.—Abuse of Maternity Charities.

THE mortality among women confined in the Paris hospitals was some twenty years ago very high. Thanks to Tarnier whose memory must ever be held in respect puerperal fever has now become exceedingly rare in lying-in hospitals, for the young mothers are surrounded with every possible antiseptic care; and the theories of Pasteur applied to obstetrics by Tarnier and his pupils have saved thousands of lives. But the enormous progress made in this line of practice and the excessive care which is taken have had the result of causing the hospitals to be invaded by a very different class to that for which they were originally intended, and the proportion of midwifery cases undertaken at the expense of the Assistance Publique has increased to an alarming extent. Three-fifths of all the births in Paris are paid for by this association. It is unjust, if not dangerous, to draw upon the income of the Assistance Publique for the benefit of the well-to-do classes. Professor Pierre Budin, a well-known authority in the matter, recently gave a lecture at the Maternité Hospital in which he brought forward the following figures. In 1877 the number of lying-in cases attended by the registered midwives of the Assistance Publique was 3486; in 1896 it had increased to 5876. It was considered that the registered midwife would gradually disappear as the number of hospital beds increased, but this hope has not been realised. The Assistance Publique exercises supervision, not only over its own registered midwives, but also over those attached to the various charitable organisations who attend lying-in women at their own homes, because they either do not wish or are unable to go into hospital to be confined. In 1877 there were 10,680 such cases; in 1896 the figures had risen to 12,025. On adding the totals for 1877 and 1878 it is found that 19,300 cases were attended by the Assistance Publique, while in 1896 the figures rose to 31,987. The numbers have grown very rapidly, especially as regards hospital cases—namely, 14,096. As there are from 50,000 to 55,000 births per annum in Paris it will be easily seen that three-fifths of these happen under the care of the Assistance Publique. The causes of this increase are many and various. First of all the number of maternity beds has doubled. Secondly, patients no longer shun the hospitals as formerly, for knowing the results obtained by antisepsis and good hygiene women flock to the hospitals to obtain that care which they cannot obtain in their own homes. Thirdly, facilities for getting about have largely increased owing to railways and tramcars so that easy access to the hospitals is now at the service, not merely of Parisians, but also of those dwelling in the rest of the Department of the Seine and even of those from more distant departments.

The Brain of Vacher.

Vacher, the well-known vagabond and the author of 18 murders, who had already gained a niche in popular legend under the name of the "shepherd slaughterer," has been guillotined. During the eighteen months of his imprisonment he was the object both before and after his condemnation of numberless medico-legal inquiries and his case gave rise to much scientific controversy. In the opinion of many psychologists he was quite irresponsible. As a fact he always was an odd character, very violent and erotic to the point of disease (*maladivement*). He had been in an asylum, from which, however, after a stay of some months he was discharged as cured Owing to some love trouble he shot himself twice in the head with a revolver. One of the bullets could not be extracted and was the cause of a marked facial paralysis with occasional attacks of acute neuralgia. After leaving the asylum Vacher began his life of wandering, in the course of which he committed 18 murders, in all of which, with the exception of one, the victim was a young boy or girl. They were accompanied with violation or mutilation of the body, evisceration, and removal of the genital organs or the breasts. Vacher declared that the acts were committed under an irresistible impulse and that after their committal he felt the greatest possible relief. Dr. Lacassagne, Professor of Forensic Medicine at the faculty of Lyons, assisted by Dr. Bebatel and other noted psychologists who were deputed to examine Vacher, came to the conclusion after a long and careful examination that he was responsible. Dr. Lacassagne considers that Vacher was simply a clever impostor who was well acquainted with the symptoms of ordinary madness owing to his stay in the asylum and who from the very commencement of his murderous career had counted on the immunity he would receive by pleading madness. The methodical way in which he set about his crimes, the precautions he employed to overcome his victim at once, to cut the throat on the one side while he stood on the other so as to avoid the spout of blood from the carotids, the skill displayed in the hiding of the body and the way in which he removed himself from the danger zone by travelling the most extraordinary distances, sometimes as much as sixty kilometres across country in one night,—all these considerations forced the experts to conclude that Vacher was only shamming. His attitude on trial when he offered the most ingenious defences confirmed this opinion and the jury unanimously condemned him to death. This verdict, however, did not put an end to the scientific discussions on the matter. Dr. Madeuf, the aural surgeon, held that the unextracted bullet which was lodged in the petrous portion of the temporal bone was possibly the cause of and mortuary lined to the ceiling with glazed tiles, a chapel, and a specimen room, with a dark room for photographic purposes attached.

The University of Edinburgh: Statistics for the Year 1898.

The total number of matriculated students during the past year was 2813. Of this number 1387 (including 6 women) were enrolled in the Faculty of Medicine. The number of women attending extra-academical lectures with a view to graduation in the University was 89. Of the students of medicine in the University 584, or over 42 per cent., belonged to Scotland; 374, or 27 per cent., came from England or Wales; 94 from Ireland, 60 from India, 231 from British colonies, and 44 from foreign countries. During 1898 the following degrees in medicine had been conferred: M.B., C.M., 60 (including 2 women); M.B., Ch.B., 138 (including 6 women); M.D., 73 (including 1 woman). There had been 29 recipients of the honorary degree of LL.D. during the year, this large number being accounted for by the visit to Edinburgh of the British Medical Association. Among the honorary graduates was Lord Kitchener of Khartoum who had received the degree at a special graduation ceremonial held in November. The total annual value of the university fellowships, scholarships, bursaries, and prizes now amounted to £17,790. Of this £3000 were distributed in the Faculty of Medicine. In addition to the above a sum of upwards of £600, the income of the Earl of Moray Endowment Fund, was annually available for original research.

Extension of the Montrose Asylum.

At the monthly meeting of the managers of the Sunnyside Royal Lunatic Asylum in Montrose on Jan. 3rd the question of extension of the asylum again came up for consideration. Under the new regulations as to the number of cubic feet of air-space for each patient the asylum was at present in the condition of having 124 patients too many. In the report of Dr. Fraser, Commissioner in Lunacy, attention was drawn to the overcrowded state of the asylum. The asylum house committee recommended that in order to reduce the present overcrowding two houses should be erected on the high ground behind the present asylum, each to accommodate from 30 to 50 patients. After discussion the meeting agreed to the recommendation of the committee and instructed them to carry out the "forward policy" with all speed.

The University of Aberdeen.

The Aberdeen Town Council has disapproved of the plans for the "restoration" of old Greyfriars Church, the majority being in favour of demolishing the structure and erecting a new church on another site, as contemplated by the Act of Parliament authorising the extension of the University buildings at Marischal College. Owing to this resolution steps are being taken to put the University in possession of funds to carry on the original extension scheme, it being feared that Mr. C. W. Mitchell, Jesmond Towers, Newcastle-on-Tyne, who offered (at first anonymously) a contribution of £10,000 on the condition of old Greyfriars Church, which is so far a pre-Reformation building, being retained in a "restored" form, may now withdraw the proferred subscription.—The medical and other classes resumed work this week after the Christmas vacation.

Aberdeen Hospital Sunday.

New Year's day was Hospital Sunday in Aberdeen, though several of the church collections were either not made or not completed till Jan. 8th. The collections (from 62 churches) on Jan. 1st alone amounted to £1155 and altogether the Royal Infirmary will receive several hundreds of pounds more than it received last year.

Jan 10th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Prevention of Tuberculosis in Dublin.

A LONG letter has recently appeared in the columns of the *Irish Times* from the pen of Professor Antony Roche, lecturer on public health at the Medical School of the Catholic University, referring to the meeting of the National Association for the Prevention of Consumption lately held under the presidency of the Prince of Wales and suggesting that the occasion should have a special interest for the inhabitants of Dublin—a city in which the mortality from tuberculous disease is relatively high, being much higher than that which is shown to exist, for instance, in London. The death-rate it appears from this class of disease has, moreover, continued at a high level in Dublin notwithstanding that it has slowly declined in many other cities and in the country at large. Mr. Roche therefore considers that the metropolis of Ireland is especially in need of remedial measures as regards that department of public health. The isolation of cases of phthisis is a matter of very considerable difficulty and expense, and if we include under that term all the surgical as well as the medical manifestations of tuberculosis it seems absurd to hope that separation or isolation can prove a really practical and effective measure for years to come. The reason of this is to be found, of course in the fact that although the disease is distinctly capable of propagation and properly ranks as an infectious disorder it differs from all the other affections so classed in this country in its chronicity. and in the fact that subjects of tuberculous disease are often moving about and attending to their business for years before they finally become invalided. Mr. Roche suggests some measures of a practical character which might be easily and without much expense adopted in Dublin—amongst others the disinfection of houses in which tuberculous patients have died, the inspection of the city meat-supply, the exclusion of dairy-yards from within the city boundary, the treatment of all milch cows with tuberculin in order to ascertain whether they are entirely free from tuberculous disease, &c.

The Dental Hospital of Ireland.

A general meeting of the governors and subscribers of the Dental Hospital of Ireland was held in the new building in Lincoln-place on Jan. 9th to approve of the memorandum and articles of association for the purpose of incorporating the institution under the Companies Acts, 1867, and to nominate members of the Executive Committee to subscribe the memorandum and articles for the purpose of incorporation. Mr. James J. Pollock, J.P., filled the chair and received the names of many influential persons nominated to subscribe the memorandum and articles of association. It appears that when the institution was in York-street it was only a voluntary society without any incorporation and after removal to the new building in Lincoln-place it remained so. The governors now wish to look for some constitutive and legal status so that they may be no longer merely a voluntarily formed body and in order to bring this about they are taking measures to register the hospital as a private company under the Acts of 1867. The effect of this would be that the institution could not be worked for profit but for the public benefit. A resolution approving of the steps taken was passed, the object of the incorporation being to take over the existing hospital as it stands and to carry on there in future the business of the Incorporated Dental Hospital of Ireland.

Prosecution under the Public Health Act.

An important case came on at the Belfast Police Courts on Jan. 3rd when the corporation summoned a woman for permitting a new building to be occupied as a dwelling-house before the house drainage had been completed and the house approved of by the city surveyor as fit for habitation. It would appear that the defendant had passed plans with the corporation for the erection of three houses, these plans showing the drains connected with the sewer. No drains had been made and notwithstanding the warnings of the corporation the woman and her family had gone into occupation of one of the houses. The magistrates entered a nominal penalty of 40*s.* as a company had been bound under agreement with the corporation to make the sewer and the defendant had purchased the ground believing this agreement existed. The company had, however, changed hands and the new owners refused to carry out the covenant.

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The Work of the Life Savers.

The general superintendent of the Life-saving Service in his annual report says that at the close of the last fiscal year the establishment embraced 264 stations—192 on the Atlantic coast, 56 on the lakes, 15 on the Pacific, and one on the Falls of the Ohio at Louisville. The number of disasters to documented vessels within the field of operations of the service was 402 and there were on board 3113 persons, of whom 12 were lost; 663 shipwrecked persons received succour at the stations of the service. The number of vessels totally lost was 59. There were also 365 casualties to small craft, on board of which there were 874 persons, of whom 10 were lost; 56 other persons were rescued who had fallen from wharves, piers, &c., most of whom would have perished except for the aid of the life-saving crews. These crews saved and assisted to save 471 vessels in distress valued with their cargoes at $2,868,655, and rendered assistance of minor importance to 324 vessels besides in distress and also warned from danger by signals of patrolmen 226 vessels. The investigations made into the details of all shipwrecks involving loss of life and the conduct of the life-saving crews at these wrecks show that no life was lost through lack of faithful and intelligent effort on the part of life-saving men who on all occasions proved themselves equal to the requirements of duty. The number of disasters within the scope of the service was much larger than the number in any previous year. The loss of life, however, was only 22, against 53 in the preceding year when the number of disasters was much smaller and was less in proportion to the number of wrecks than ever before. The following is a general summary of the statistics of the service from the introduction of the present system in 1871 to the close of the fiscal year ended June 30th, 1898: number of persons involved, 81,245; number of lives lost, 845; number of persons succoured, 13,876.

The Marine Hospital Service.

With the close of the fiscal year 1898 the United States Marine Hospital Service completed the one hundredth year of its existence, the original Act for the Relief of Sick and Disabled Seamen having been passed by Congress on July 16th, 1798. At the present time the *personnel* of the service is as follows: Commissioned medical officers, 75, including the surgeon-general, 21 surgeons, 27 passed assistant surgeons, and 26 assistant surgeons. There are, in addition, 136 non-commissioned officers—viz., acting assistant surgeons, 98; sanitary inspectors, 4; and hospital stewards, 34. When all the stations have their full complement of attendants and quarantine employés there are in addition about 400 men employed in this branch of the Government. This number is of necessity much increased during epidemics. There are 21 hospitals owned and worked by the service and 11 quarantine stations; but in addition to these there are 88 localities in the United States where patients of the service receive dispensary and hospital treatment. During the fiscal year 1898 the total number of beneficiaries of the service treated at dispensaries and hospitals was 52,709, and of this number 11,914 were hospital patients. To assist in the prevention of the introduction of contagious diseases into the United States sanitary inspectors have been stationed at Habana, Santiago de Cuba, Rio de Janeiro, and at Yokohama. Two skilled bacteriologists of the Marine Hospital Service were especially detailed to investigate in Habana the cause of yellow fever. A laboratory was established and they continued their labours till obliged to withdraw on account of the war. They have now returned to Habana and are continuing the investigation and their preliminary report, published in the annual report of the service, indicates that the true cause of the disease has been found by Professor Sanarelli in the bacillus icteroides.

Dec. 18th, 1898.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Public Health of Sydney.

THE quarterly report of the medical adviser to the Sydney Board of Water-Supply and Sewerage showed that a slight increase had occurred in the death-rate owing to the epidemic of measles. In zymotic diseases the death-rate had risen from 1·6 per 1000 at the end of June to 5 per 1000 at the end of August, but fell in September to 1·5. The death-rate from respiratory disorders also had increased. More cases of diphtheria had occurred and the number of cases of typhoid fever was double that for the corresponding period last year. This may be partly accounted for by the fact that notification was not compulsory until this year. An analysis of the sanitary conditions existing in cases of typhoid fever is suggestive of the value of the sewerage system. In 33 out of the 68 cases no sewers were available and in 19 the houses were insanitary. In 14 cases the regulations were complied with, but 9 of the patients were school-children. The report emphasised the improvement in the public health which had followed the installation of the sewerage system and stated further that the men working in the sewers invariably enjoyed good health. The mean temperature during the quarter had been lower than the average and the temperature had also shown marked fluctuations, ranging from 40·4° F. in July to 89·8° in September. The sudden changes in the temperature are held responsible for an increase in the deaths from phthisis.

The Melbourne Hospital.

The annual expenditure of the Melbourne Hospital now amounts to £25,953. Three years ago it was £22,500. The receipts, on the other hand, have diminished from £25,700 in 1896 to £20,645. The increased expenditure affects all items except that for printing and is partly accounted for by the fact that the daily average of patients has increased from 271 in 1896 to 295 in the present year and by the great increase in the number of operations. The largest item of expenditure is for wages—£5912 paid to 179 employés. The sub-committee appointed to consider the best way of reducing the expenditure and increasing the income has presented a report. It is advised that the contract system be extended to every department, including the supply of bread and repairs to buildings. Waste is to be prevented by a system of fines on all employés found guilty of waste. The diets are to be more closely supervised by the medical superintendent. With a view of augmenting the income it is proposed to charge a registration fee to all patients, in- as well as out-door; visitors to patients are to be charged 6*d.* a ticket of admission; students are to pay annual fees in addition to the entrance fees; municipal bodies, country as well as urban, are to be asked to contribute to the funds; and the collecting staff is to be reorganised.—The present system of electing the honorary staff of the Melbourne Hospital by the subscribers to the institution has frequently been condemned. A public meeting was recently held to discuss the question. It was convened by the Charity Organisation Society and Professor G. E. Morris occupied the chair. He said that the present system was degrading to the noble profession of medicine. It wholly failed to secure the best men for the position and was quite out of date. He advocated the formation of an election committee consisting of 4 representatives appointed by the governor in council, 4 elected by the medical profession, 2 by the faculty of medicine of the Melbourne University, and 5 by the committee of the hospital. It was finally resolved that it was desirable that no annual subscriber to a metropolitan hospital should be permitted to exercise the right of voting at any election of the medical or surgical staff unless his or her name should have been on the list of subscribers for three years immediately preceding such election and that it was desirable to extend the term of service of the members of the staff from four years to seven.

Prince Alfred Hospital, Sydney.

It has been decided that the lecturer in pathology at the Sydney University shall act as honorary pathologist at the Prince Alfred Hospital and that a resident pathologist be appointed to act under his guidance. Mr. Sinclair Gillies, M.A., M.D., has been appointed honorary assistant physician; Mr. J. L. Wassell, M.B., resident registrar; Mr. J.

MacPherson, M.A, B Sc., M B, resident pathologist, and Mr W B. Walton, M.B, resident medical officer.

Obituary

A long-established and well known medical practitioner has been lost to the profession in Melbourne by the death of Mr Stephen J Burke, M R C S Eng He arrived in the colony in 1854, having been previously in the navy as surgeon on H M S *Cordelia* and in active service in the Crimean War He was a universally respected and loved practitioner, always kind and helpful to others, and his acts of charity to the sick poor made his name a household word in his district —Another much to be regretted death in the profession in Melbourne is that of Miss Amy Castilla, M.B She was one of the pioneers among the women doctors in Melbourne and the first to hold the position of resident medical officer at a general hospital in Australia—namely, at St. Vincent's Hospital, Melbourne Subsequently she filled a similar position at the Women's Hospital She then commenced private practice and was on the staff of the Queen Victoria Women's Hospital in the progress of which she took the greatest interest

Dec. 2nd, 1898.

Obituary.

SURGEON GENERAL SIR JAMES MOUAT, K C B, V.C, F R C S ENG,

HONORARY SURGEON TO THE QUEEN

THE veterans who took part in the Crimean War are fast passing away. We regret to record the death of Surgeon-General Sir James Mouat, V C, on Jan. 4th at his residence in Palace Gardens terrace, Kensington Sir James Mouat had reached the ripe age of eighty three years and had retired from the service many years ago—in 1876—but he had a long and distinguished career, as his record of military service shows, and played a notable part in his time He was essentially a man of action, endowed with much physical and mental energy as well as courage These enabled him not only to go through a good deal of arduous and responsible work and to play a prominent part in the campaigns at which he was present, but carried him on to old age in the enjoyment of life with his active habits comparatively unimpaired until nearly the end In the Crimea he displayed great energy in the field and in the official performance of his medical duties There are probably some still living who can remember him mounted on a horse with high forward action as he rode from camp to camp holding medical boards, making inspections, and giving directions in connexion with the field medical arrangements and the disposal of the sick and wounded and invalids It was at Balaclava that he won his Victoria Cross He was the son of Dr James Mouat of the 13th and 15th Light Dragoons and was born in 1815 and educated at University College and in Paris He entered the medical department of the army in 1838, was promoted surgeon in 1848, surgeon major in 1855, deputy surgeon general in 1858, surgeon general in 1864, and retired on half pay in 1876 The regimental medical system was, of course, in force during his service in the army He served in the Eastern Campaign of 1854-55 with the 6th Dragoons and on the medical staff and was in medical charge of the general field hospital of the 3rd Division throughout the siege operations until the fall of Sebastopol, and subsequently as principal medical officer of Balaclava until the final evacuation of the Crimea on June 12th, 1856, having been present at the battles of Balaclava Inkerman, and Tchernaya, and the night reconnaissance and attack on Russian outposts on Feb 19th, 1855, receiving the C.B, the Victoria Cross, the medal with three clasps, and Turkish medal, and being appointed a Knight of the Legion of Honour He was awarded the Victoria Cross for having voluntarily proceeded to the assistance of Lieutenant Colonel Morris, 17th Lancers, who was lying dangerously wounded in an exposed situation after the retreat of the light cavalry at the battle of Balaclava on Oct 25th, 1854, and having dressed that officer's wounds in the presence of the enemy He served during the New Zealand War of 1860-61 throughout the operations under General Pratt, being twice mentioned in despatches He was present in the field as Principal Medical Officer throughout the operations in the Waikato, Taranaki, and Tauranga districts in 1863-65 under Sir D Cameron and was repeatedly mentioned in despatches (medal) He received the thanks of the New Zealand Government for "special and valuable services rendered to the colony" In 1858 he was appointed Deputy Inspector General and in 1864 Inspector General of Hospitals In 1888 he was made an honorary surgeon to Her Majesty the Queen and in 1894 was created K C B

ALFRED KEBBELL, M R C S ENG.

MR KEBBELL of Flaxton, near York, who died at his residence there on Dec 21st, had an extensive practice in that district and the surrounding country He was a native of London and studied medicine at the London Hospital where he gained a surgical scholarship and held the office of house surgeon Having become qualified as M R C S Eng in 1872 he was in the following year selected to be house surgeon in the York County Hospital, an appointment which he resigned after a year's tenure in order to commence practice in Flaxton where the remainder of his life was passed Mr Kebbell was a fellow of the Obstetrical Society of London and a member of the York Medical Society Several contributions by him have appeared in THE LANCET, perhaps the most important being the description of a case of recovery after compound comminuted fracture of the skull with laceration and escape of brain matter, published in our columns on Jan 1st, 1876, followed on August 5th of the same year by an account of a case in which a girl, aged thirteen and a half years was delivered of a living child at full term The deceased was medical officer of the Fourth District of the York Union and medical officer of the Whitwell Convalescent Home He was aged fifty one years at the time of his death and has left a widow and family for whom much sympathy is felt

ROBERT FENDICK, M R C S ENG, L S A. LOND

MR ROBERT FENDICK died at his residence, Pembroke House, Whiteladies road, Clifton, Bristol, on Jan 5th, in his eighty third year Mr Fendick received his medical education at the Bristol School of Medicine and qualified as M R C S Eng in 1859 having taken the L S A Lond four years previously He shortly afterwards commenced practice in Bristol and was for many years a Poor law medical officer, being also registrar of births and deaths for one of the districts On his retirement a few years ago he was granted a superannuation allowance by the guardians During the cholera epidemic in Bristol which occurred about fifty years ago Mr Fendick, who was a member of the Cholera Committee, rendered conspicuous service Mr Fendick was for many years churchwarden of All Saints' Church He was also an active Freemason and on the occasion of his masonic jubilee in 1894 was presented with a handsome address The deceased who was well known and highly respected was one of the oldest practitioners in the West of England

PHILIP BROWN, M D ABERD

DR PHILIP BROWN of Blaydon on Tyne died at his residence near Wylam on Nov 20th after an illness of several weeks' duration The deceased gentleman who was in his seventy eighth year was born at Bishop Auckland, received his professional education at the Durham University College of Medicine in Newcastle and at University College, and became qualified as L S A in 1844 Soon afterwards he settled at Blaydon and before long had a very large practice One of his patients was the late Mr W J Linton, the artist and wood engraver who in his published memoirs testified to Dr Brown's ability and kindness In 1852 Mr Brown graduated as M D at Aberdeen University He was an energetic member of the Blaydon and Winlaton Mechanics' Institution, frequently lectured to the members, and was a constant and very popular speaker at the annual gatherings The last time the Northern Union of Mechanics Institutions met at Blaydon he was chosen President in which capacity he delivered an admirable address Dr Brown was medical officer of health of the Blaydon and Ryton Urban Districts and afterwards of the Blaydon Urban District Council On May 16th 1883, he was presented with a purse of gold and his portrait painted in oil, a gold necklace being at the same time given to Mrs. Brown. He has left several sons, one of whom is a member of his father's profession.

JOHN McCOMBIE, M.B. ABERD.

ON Dec. 23rd Dr. John McCombie died at his residence in King-street, Aberdeen, in his forty-third year. He was a native of Morayshire and after having spent some years in business in Glasgow he commenced the study of medicine in Aberdeen University, took the degree of M.B. in 1883, and *shortly afterwards* commenced practice in Aberdeen. He was greatly interested in anthropology, and on the occasion of the opening of the Mitchell Hall he lent the university a collection which was highly commended.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Haan, medical officer of the Havre hospitals.—Dr. Witold-Narkiewicz-Jodko, formerly Professor of Ophthalmology in the University of Warsaw.—Professor Laboulbène, formerly President of the Paris Academy of Medicine.—Dr. Oscar Bulhöes, Professor of Clinical Surgery in the University of Rio de Janeiro.—Dr. Boëns, a Belgian medical man who had for many years identified himself with the agitation against vaccination.—Dr. Gottlieb Gluge, Emeritus Professor of Physiology and Anatomy in the University of Brussels, has died at Nice, aged eighty-six years, having been born in Westphalia in 1812. While a student in Berlin he worked with Froriep who was prosector at the Charité and discovered the oil globules in cells undergoing fatty degeneration. After a period of study in Paris he published an important paper on Influenza treated Historically and Pathologically, for which he was awarded a prize by the Berlin Medical Faculty. In 1836 he was appointed Professor of Physiology in Brussels. His "Atlas of Pathological Anatomy" appeared in parts from 1843 to 1850. For the last twenty-three years he had been living in retirement.—Dr. Constantin Vousakis, Professor of Physiology in the University of Athens.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the Second Examination of the Board in the subjects indicated at meetings of the Examiners:—

Monday, Jan. 9th:

Anatomy and Physiology.—Archibald Douglas Hamilton, University College, Liverpool; Henry Shemeld Tumber and Henry Gardner, Firth College, Sheffield; Randolph Henry Neilson Rutherford, Frederick Henry Rudge, and Frank Parlett, University College, Bristol; William L'Estrange Mathews, William Edward Vaughan Lewis, and Justin James Bekenn, Mason University College, Birmingham; Austin Lewis Badcock, Charing-cross Hospital; James Douglas Judson, Owens College, Manchester; Henry Edward Barrett and Hugh George Stiles Webb, St. Mary's Hospital; Thomas Benhote Henderson, Oxford University and St. Thomas's Hospital; William Bartholomew Vaile, London Hospital; and Herbert Michael Henry Melhuish, St. Bartholomew's Hospital.

Physiology only.—Mr. Roderick McKenzie Skinner, Edinburgh University and Medical School.

19 gentlemen were referred to their professional studies for three months in both subjects and one in anatomy only.

Tuesday, Jan. 10th:

Anatomy and Physiology.—Charles Stuart Woodwark and Aubrey Keatinge Halliday Pollock, St. Bartholomew's Hospital; William Vincent Wood, Cambridge University and St. Bartholomew's Hospital; Lorimer Gifford Nash and Arthur William Gater, Guy's Hospital; Arthur Charles Nash, Guy's Hospital and Mr. Cooke's School of Anatomy and Physiology; Ernest Alfred Cox and James Duncan Clay, King's College, London; Charles Ernest Lakin and Robert Robinson Lewis, Middlesex Hospital; Charles Russ Hugh Cameron Wilson, and Ernest Edward Argles, St. Mary's Hospital; Edward Prall, Arthur Whitehead-Smith and Bertram Eli Sansom, St. Thomas's Hospital; William Ashley Beet, Charles Bramhall, William Harrington Gray, Gilbert Phillip Mosscrop, and Robert Martin Dolbey, London Hospital; Dhaupat Rai, Punjab University, Lahore; Cecil Hugh Myddelton Hughes, Westminster Hospital; and Frederick James Lawson, University College Hospital.

12 gentlemen were referred to their professional studies for three months in both subjects.

SOCIETY OF APOTHECARIES OF LONDON.—At the Primary Examination held in January the following candidates passed in the subjects indicated:—

PART I.

Biology.—L. Denny, Royal Free Hospital; I. Griffith, London Hospital and Cambridge; D. A. Stepney and M. L. Tyler, Royal Free Hospital; and J. S. Ward, Sheffield.

Chemistry.—St. C. G. Ballenden, Birmingham; J. M. Gleeson, Dublin and London Hospital; W. J. H. Hepworth, Edinburgh and St. Mary's Hospital; H. M. Huggins, St. Bartholomew's Hospital; J. Jones, Manchester; F. Marriott, Edinburgh; and G. B. Messenger, Liverpool.

Materia Medica and Pharmacy.—J. H. Bennett, Birmingham; R. V. Cowey, Edinburgh and St. Mary's Hospital; A. M. Davis, Birmingham; R. J. Hogan; J. Jones, Manchester; F. Marriott, Edinburgh; and H. E. Weston, St. George's Hospital.

PART II.

Anatomy.—J. C. Baggs, St. Thomas's and Westminster Hospitals; J. C. O. Bradbury, Cambridge; H. B. Connell, Birmingham; A. B. Edwards, St. Bartholomew's Hospital; A. T. Greenhill, Durham; R. J. Hanbury, St. Bartholomew's Hospital; A. E. Henton and W. J. H. Hepworth, Edinburgh and St. Mary's Hospital; F. P. Joscelyne, Leeds; G. J. W. Keigwin, London Hospital; N. Lipscomb and *H. Mills, St. Bartholomew's Hospital*; E. Osborne and J. R. Pooler, Birmingham; A. F. Reardon, St. Thomas's Hospital; H. H. Serpell, St. Bartholomew's Hospital; H. G. Sewell, London Hospital; G. E. Soltau, Royal Free Hospital; H. O. Sutcliffe, Cambridge; P. L. Vawdrey, St. Bartholomew's Hospital; and J. Willett, Glasgow.

Physiology.—J. C. O. Bradbury, Cambridge; P. C. Burgess, Middlesex Hospital; H. B. Connell, Birmingham; W. H. Cotton, Dublin; W. E. Cuthbertson, *Bristol and Glasgow*; A. T. Greenhill, Durham; R. J. Hanbury, St. Bartholomew's Hospital; A. E. Henton, Edinburgh and St. Mary's Hospital; E. Osborne and J. R. Pooler, Birmingham; H. G. Sewell, London Hospital; G. E. Soltau, Royal Free Hospital; P. L. Vawdrey, St. Bartholomew's Hospital; *and J. Willett, Glasgow.*

UNIVERSITY OF LONDON.—At the B.S. examination for honours the following candidates were successful:—

Surgery.—First Class: John Preston Maxwell (Gold Medal), St. Bartholomew's Hospital. Second Class: Thomas Varley Cunliffe, Owens College and Manchester Royal Infirmary; and Donald John Munro, Guy's Hospital. Third Class: Winifred Secretan Patch, B.Sc., Royal Free Hospital and London School of Medicine.

FOREIGN UNIVERSITY INTELLIGENCE.—*Baltimore:* Dr. J. Williams Lord has been appointed Professor of Dermatology in succession to Dr. Gilchrist, resigned.—*Berlin:* There are this winter session more students in the medical faculty than there have ever been before, the number being 1311.—*Bologna:* Dr. G. Valenti of Catania has been appointed to the chair of Anatomy.—*Erlangen:* Dr. L. R. Müller has been recognised as *privat-docent* in Medicine.—*Genoa:* Dr. Novaro of Bologna has been appointed Extraordinary Professor of Clinical Surgery in succession to the late Dr. Caselli.—*Halle:* Dr. E. Mehnert of Strasburg has been appointed Extraordinary Professor of Anatomy.—*Kiel:* Dr. Heermann has been recognised as *privat-docent* of Otology.—*Nancy:* Dr. Weiss has been appointed Professor of Clinical Surgery.—*Zürich:* Dr. Max von Frey of Leipsic has been appointed to the chair of Physiology.

UNIVERSITY OF CAMBRIDGE.—Dr. Hill, Master of Downing College and Vice-Chancellor of the University, has been reappointed University Lecturer in Advanced Human Anatomy until Michaelmas, 1903.

WE are informed that the "Antikamnia Chemical Company" have complained to the authors of the Extra Pharmacopœia of the publication of the paragraph therein regarding Antikamnia and that the authors have withdrawn it as being incorrect.

CORPORATE AND MEDICAL REFORM ASSOCIATION.—The Corporate and Medical Reform Association, Limited, 2, Southampton-street, Strand, has prepared a memorial to the General Medical Council praying for the restraint of "illegal certificates of proficiency in departments of medicine, surgery, or midwifery on less than that full medical education which the law requires as necessary for the public safety." A memorial on the same subject was presented to the Council on the concluding day of last session, whereupon Mr. George Brown moved and Mr. Victor Horsley seconded the appointment of a special committee to examine the question. The motion was supported by Dr. Glover, Dr. William Bruce, Sir William Thomson (a unanimous vote of the Direct Representatives), Sir Christopher Nixon, Dr. E. Bennett, and Mr. Tichborne; but an amendment, moved by Dr. MacAlister, that the memorial be referred to the Executive Committee was carried by a majority of 5—a method of disposing of the memorial which the association considers to be not the most advantageous. The object of the second memorial, to which signatures are now invited, is to strengthen the hands of the Direct Representatives and their friends on the Council. The certificates specially named by the association in the memorial are: (1) "every certificate of proficiency in any class of midwifery except those certificates which admit to the Medical Register"; and (2) the certificates granted to makers and vendors of spectacles by the Spectaclemakers' Company and the British Optical Association.

The Vestry of St. George-the-Martyr, Southwark, and the Supply of Diphtheria Antitoxin.—On Jan. 11th, 1898, this vestry in accordance with a recommendation of its Public Health and Sewers Committee resolved that a supply of diphtheria antitoxin should be kept for the use of medical practitioners in the event of the hospitals of the Metropolitan Asylums Board being full. This provision of antitoxin by a public body is an excellent and enlightened policy and one which has already been adopted by several local authorities, but a retrograde spirit seems now to have taken possession of the above-mentioned committee, for at the meeting of the vestry on Dec. 13th, 1698, it was moved on behalf of the committee that the resolution of Jan. 11th should be rescinded on the ground that antitoxin "should be injected only by medical men who have a thorough and continuing practical knowledge of the use and effects of the serum—namely, the medical staff of the Asylums Board." Dr. F. J. Waldo, the medical officer of health, pointed out to the vestry that the antitoxin treatment was no longer on its trial but was adopted by medical men in all countries. The experience of the Asylums Board hospitals was that a notable decrease in the mortality had followed its introduction about the year 1895. Its success was especially marked in post-scarlatinal diphtheria, most probably on account of the patients being brought under treatment at an early stage of the disease. Great advantages are to be expected from its use in private practice, for the delay caused by waiting for vacant beds at hospitals adds to the death-rate. Two vestrymen said that *nothing ought to* be done which would tend to the poor being treated at home instead of at the hospital. In the *result the consideration* of the matter was adjourned for six months.

Presentations to Medical Men.—The esteem in which Mr. C. P. O'Connor, M.D. Durh., of March, Cambs, is held among his numerous patients was still further emphasised on Dec. 16th, 1898, when he was the recipient of a silver salver, beautifully engraved, subscribed for by no less than 276 employés engaged on the Great Eastern Railway at March. The salver bears the following inscription: "Presented to Dr. C. P. O'Connor by the railway men at March and Whitemoor on the occasion of his marriage, Oct. 21st, 1898."—On Dec. 20th, 1898, at the annual distribution of certificates to the successful candidates in the local St. John Ambulance Classes at Loughboro', Leicestershire, the Mayor of the borough presided, and on behalf of the female class presented Mr. P. Phelps, L R C.P. Edin., M.R C S. Eng., of Loughboro', with a silver-mounted walking stick, suitably engraved, and a similar walking stick was handed to Mr. J. B. Pike, L.R C.P. Edin, M.R C S Eng., from the male class, both as tokens of thanks for their instructions on First Aid—On Dec. 23rd, 1898, the annual conversazione and presentation of certificates and medallions of the Rutherglen Ambulance Class took place in the lesser town-hall. Provost Edmiston occupied the chair and on presenting in the course of the evening Mr. R. Clarke, M B Glasg., of Rutherglen, the lecturer, with a handsome oak escritoire referred to the great success which had attended the year's class, which was a record one in its history.—At the monthly meeting of the Visiting Committee of the Plymouth Borough Asylum at Blackadon on Dec 28th Mr. Arthur N. Davis, L.R C P. & S. Edin., the medical superintendent, who is about to leave for the Devon County Asylum, was presented by the Mayor on behalf of the committee with a framed and illuminated address on vellum in which was set forth their appreciation of the services of Mr. Davis in his management of the institution during the past seven years.—At the annual supper of the officers and staff of the Plymouth Borough Asylum held on Jan. 2nd the superintendent-elect of the institution presented Mr. Davis with an engraved electro-plated soup tureen and entrée dish bearing the following inscription: "Presented to Dr. Arthur N. Davis by the officers and staff of the Plymouth Borough Asylum as a token of their esteem on the occasion of his appointment as medical superintendent of the Devon County Asylum."

A general meeting was held on Thursday afternoon of the East Suburban Medical Protection and Medico-Ethical Society, Limited, at which an annual report of considerable interest was presented by the officers of the society.

Unqualified Practice in Devonshire.—At an inquest held at Modbury, Devonshire, on Jan. 6th relative to the death of a quarryman, aged fifty-nine years, it was stated that the deceased paid £2 10*s*. to a man named Roberts of Plymouth who advertised that he could "cure cancer and diabetes", and in return he received twenty-two powders which on analysis were found to consist of table salt. Death was due to diabetic coma.

Health of Bristol.—Dr. D. S. Davies (the medical officer of health) reported at the meeting of the Bristol Health Committee held on Jan. 3rd that the annual death-rate for 1898 was 17·1 per 1000 which is the same as that recorded for 1897 and compared favourably with the ten years' average which is 18·4 per 1000. The birth-rate was 28·5 per 1000, the ten years' average being 29·4 per 1000. The death-rate from zymotic diseases during 1898 was 2·68 per 1000.

The Police and Vaccination.—At the last meeting of the Cornwall Standing Joint Committee a member drew attention to the fact that some of the police made conscientious objections to vaccination; he also inquired whether police constables were vaccinated. The chief constable replied that he had heard of no police-officer making objections to vaccination and added that there was no compulsion for the members of the force themselves to be vaccinated. Another member stated that four or five policeman had applied for exemption in his district.

Literary Intelligence.—According to *Le Scalpel* there has just been a considerable mortality amongst French medical journals, *La Revue des Sciences Médicales de Hayem*, *Le Journal des Connaissances Médicales* (which has existed for fifty-six years and has of late been edited by Professor Cornil and Dr. Galippe), and *Le Journal des Maladies Nerveuses* of Paris having ceased to appear.—Messrs. Kegan Paul and Co. will have ready by the middle of January a new and entirely revised edition of Mr. E A. Reynold-Ball's "Mediterranean Winter Resorts."

Freemasonry.—*The Rahere Lodge, No. 2546.* An ordinary meeting of this Lodge was held at Frascati's Restaurant, Oxford-street, W., on Tuesday, Jan. 10th, 1899, Bro. Burns, the W M., in the chair. Messrs. F. H. Lewis, W. W. Kennedy, and T. Hood were initiated into freemasonry and Bro. J. A. Rigge was elected a joining member of the Lodge. Bro Dr. Roberts was admitted to the second degree and Bros. Coventon, Griffiths, and Gay to the third degree. A sum of 20 guineas was voted from the funds of the Lodge in aid of the Royal Medical Benevolent College, Epsom, and 1 guinea was given to the Home for the Dying. The brethren and their guests afterwards dined together.

Complimentary Farewell Dinner.—On Dec. 15th, 1898, Mr. J J. F. Bourke, L R C P. & S Irel., of Rathgar, Dublin, was entertained at a farewell and complimentary dinner by some of his colleagues of the Richmond and Temple-street Hospital and by some personal friends. In both those institutions Mr. Bourke became very popular and those who had worked with him availed themselves of the opportunity which his leaving to take up an important appointment in Australia afforded to pay him some mark of esteem and appreciation. Dr. T. Myles presided and in proposing the health and success of the guest of the evening expressed the regret of all present at the loss which they must sustain by Mr. Bourke's departure.

A New Mortuary at Hammersmith.—A new mortuary and coroner's offices were recently opened at Fulham Palace-road. The accommodation in the front block provides for the court, lobby and entrance, waiting room, coroner's room, lavatories and closet accommodation on the ground-floor, with caretaker's rooms above the waiting- and coroner's rooms; there is a 10 ft. passage entrance and exit at each end leading to the open yard 20 ft. wide. The mortuaries are on the east side of the open yard and consist of No. 1, ordinary mortuary, and No. 2, mortuary for infectious cases, separated by a lobby. Adjoining the No. 1 mortuary is the post-mortem room, and close by is the laboratory. A wash-house is situated at the north end of the block, and a shell-house and disinfecting house at the other end. The general plan has been arranged to keep the various buildings separate, with sufficient air space between each. The coroner, jury, and witnesses and other persons wishing to see the bodies can do so from the viewing lobby. The court is in the front of the building and measures 20 ft. by 30 ft.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

BENSON, FRANCIS ALOYSIUS, L.R.C.S., L.R.C.P. Irel., has been appointed Public Vaccinator for the Ormesby District of the Middlesbrough Union.

BROWN, RICHD., M.B. Durh., B.S., has been appointed Medical Officer by the Blaydon District Council, vice P. Brown.

COOPER, C. W., M.B., M.R.C.P. Lond., has been appointed Honorary Consulting Physician to the Leicester Infirmary.

DAVIES, A. O., M.R.C.S., L.R.C.P. & S. Edin., has been appointed Medical Referee under the Workmen's Compensation Act for the Aberystwith, Machynlleth, and Dolgelly districts.

DAWNAY, A. H. PAYAN, M.R.C.S., L.R.C.P. Lond., has been appointed Anæsthetist to the Royal Orthopædic Hospital.

GARRETT, J. H., M.D. Durh., D.P.H. Camb., has been re-appointed Medical Officer of Health for the Borough of Cheltenham.

GRAY, SARAH, L.R.C.P., L.R.C.S. Edin., L.F.P. & S. Glasg., has been appointed Assistant Surgeon for the Nottingham Hospital for Women.

GREENWOOD, FRANK R., M.R.C.S., L.R.C.P. Lond., has been appointed Resident Surgical Officer for the Birmingham and Midland Free Hospital for Sick Children.

GUNTHER, T., M.D. Tübingen, L.R.C.P. Lond., has been re-appointed Medical Officer of Health by the Hampton Wick Urban District Council.

KNOX, J. E., M.B., C.M. Edin., has been appointed Medical Officer for the Molesey Sanitary District of the Kingston Union.

MORRISON, D. S., M.B., C.M. Edin., has been appointed Medical Officer for the Liff Landward District by the Dundee Parish Council.

OSBORNE, O., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health by the Bexhill Urban District Council.

PECK, H., M.B. Edin., L.R.C.P., L.R.C.S., D.P.H. Camb., has been appointed Medical Officer of Health for the Chesterfield Rural District, vice A. Mackintosh.

PRATT, REGINALD, M.D. Lond., M.R.C.S., has been appointed an Honorary Physician to the Leicester Infirmary, vice C. W. Cooper, resigned.

PUGH, ROBT., M.B., Ch.B. Edin., has been appointed Junior Assistant Medical Officer for the City Asylum, Birmingham.

ROSS, J. S., M.B., Ch.B. Vict., has been appointed House Surgeon and Resident Obstetric Assistant Surgeon for the St. Mary's Hospital, Manchester, vice W. K. Walls.

ROWLAND, J. T., M.D. St. And., M.R.C.S., has been re-appointed Medical Officer of Health by the Richmond Urban District Council.

SEVESTRE, R., M.D. Camb., L.R.C.P. Lond., M.R.C.P., has been appointed an Assistant Honorary Physician to the Leicester Infirmary.

SMITH, C. C., M.B. Camb., M.R.C.S., has been appointed Medical Officer for the Redditch Sanitary District of the Bromsgrove Union.

THOMSON, H. CAMPBELL, M.D. Lond., M.R.C.S., has been appointed Pathologist and Curator of the Museum to the Middlesex Hospital.

WITHERS, J. S., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Sale Urban District Council.

WOOD, A. J., M.B., C.M. Edin., has been appointed Senior Medical Officer for the Poole Medical Association.

Vacancies.

For further information regarding each vacancy reference shoul made to the advertisement (see Index).

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park.—Pathologist. Salary 100 guineas per annum.

CONSUMPTION HOSPITALS AND ORPHAN HOMES OF SCOTLAND, Bridge of Weir.—Resident Medical Officer. Applications to the Hon. Secretary, 141, West George-street, Glasgow.

FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY, 17, Bartlett's Buildings, Holborn, London.—Honorary Dental Surgeon. Also Resident Medical Officer. Salary £100 per annum, with apartments and attendance.

FINSBURY DISPENSARY, Brewer street, Goswell-road, E.C.—Resident Medical Officer. Salary £120 per annum, with a furnished residence in the Institution, and attendance, coals, and gas.

GENERAL HOSPITAL, Nottingham.—House Physician for two years. Salary £100, rising £10 a year to £120, with board, lodging, and washing.

HULME DISPENSARY, Manchester.—House Surgeon. £130 per annum, with apartments, coal, and gas.

JAFFRAY BRANCH OF THE GENERAL HOSPITAL, Gravelly-hill, near Birmingham.—Resident Medical and Surgical Officer. Salary £150 per annum, with board, residence, and washing.

LIVERPOOL DISPENSARIES.—Two Assistant Surgeons, unmarried. Salary £80 for the first year and £90 per annum afterwards, with apartments, board, and attendance. Applications to the Secretary, 34, Moorfields, Liverpool.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Assistant Surgeon.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant for at least one year. Salary £120 for the first year and £160 afterwards.

NORTHAMPTON GENERAL INFIRMARY.—Assistant House Surgeon, unmarried. Salary £100 per annum, with furnished apartments, board, attendance, and washing.

ROYAL SOUTH LONDON DISPENSARY, St. George's-cross, S.E.—Honorary Surgeon.

SEAMEN'S HOSPITAL SOCIETY, Greenwich, S.E.—House Physician for *Dreadnought* Hospital, Greenwich. Salary £75 per annum, with board and residence. Also Surgeon for Dispensary, 51, East India Dock-road, E. Salary £63 per annum.

ST. MARY'S CHILDREN'S HOSPITAL, Plaistow, E.—Senior Resident Medical Officer for one year. Salary £80 per annum, with residence in the hospital, board, and washing.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea, S.W.—Ophthalmic Surgeon.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon for six months. Board, lodging, and washing provided. Gratuity £20.

WEST DERBY UNION.—Resident Assistant Medical Officer for the Workhouse, Rice-lane, Walton-on-the-Hill, Liverpool. Salary £100 per annum, with first-class rations, apartments, &c. Salary subject to statutory deduction. Applications to the Union Clerk, Brougham-terrace, West Derby-road.

Births, Marriages, and Deaths.

BIRTHS.

FORD.—On Jan. 6th, at Ladbroke-square, W., the wife of Frank C. Ford M.B., of a son.

LUCAS.—On Jan. 9th, at Broadway House, Tooting, the wife of Claude R. Lucas, M.R.C.S., L.R.C.P., of a son.

MOORE.—On Dec. 27th, at Oakdene, Walton-on-Thames, the wife of S. J. Moore, M.D., of a daughter.

REES.—On Jan. 8th, at Holmesdale, Penarth, South Wales, the wife of J. Hugh Rees, M.D., of a son.

WORNUM.—On Jan. 8th, at Belsize-park, N.W., the wife of George Porter Wornum, M.R.C.S., of a daughter.

MARRIAGES.

HASTINGS—MUNDELLA.—On Jan. 5th, at St. Mark's, Regent's-park, N.W., by the Rev. J. Sparrow Simpson, Edwin Birchall Hastings, M.D., youngest son of the late William Hastings of Huddersfield, and Theresa, second daughter of the late John Mundella of Nottingham.

HOLME—LAYNG.—On Jan. 4th, at S. Andrew's, Rippingale, Crampton W. Holme, M.R.C.S., Wisbech, to Ethel Mary, eldest daughter of Rev. W. W. Layng, Rector of Rippingale.

HUIE—INGLIS.—On Jan. 4th, at St. Peter's Church, Ashby Parva, Leicestershire, Henry Greville Huie, M.D., to Ida Mary, eldest daughter of C. J. Inglis, Esq.

NIGHTINGALE—COLLISON.—On Jan. 7th, at St. Mary Abbot's, Kensington, Percy Athelstan Nightingale, M.D., second son of the late Percy Nightingale, to Muriel Stoughton, third daughter of the late Charles Stoughton Collison, of Upper Phillimore-gardens, Kensington, W.

SMYTH—BULLOCK.—On Jan. 3rd, at C.M.S. Church, Ningpo, China, Richard Smyth, B.A., M.B., Medical Missionary, to Blanche Emily, second daughter of the Rev. Charles Bullock, B.D., Coomrith, Eastbourne.

TAYLOR—PEECH.—On Jan. 7th, at Holy Trinity Church, Rochampton, S.W., Alfred Ernest Taylor, M.B., B.S. Lond., F.R.C.S. Eng., of Lancaster-gate, W., to Mary Emma, eldest daughter of William Peech, of Fern Bank, Roehampton-park, S.W.

WILLIS—THRING.—On Jan. 5th, at St. Peter's, Bournemouth, Cryll Hamer Willis, M.R.C.S., L.R.C.P. Lond., younger son of the late M. M. Willis, of Beckenham, Kent, to Annie Bertha, youngest daughter of the late Robert Thring of Winchester.

DEATHS.

ARMSTRONG.—On Jan. 5th, suddenly, at 3, Bentinck-villas, Newcastle-upon-Tyne, Mary, dearly beloved wife of Henry E. Armstrong, Medical Officer of Health.

FARR.—On Jan. 11th, suddenly, at Penrhyn Lodge, Cambridge-park, Twickenham, George Frederick Farr, L.R.C.P., M.R.C.S., in his 67th year.

MOUAT.—On Jan. 4th, at Palace-gardens-terrace, Kensington, Surgeon-General Sir James Mouat, K.C.B., V.C., Q.H.S.

SEWELL.—On Jan. 2nd, at Mentone, James Arthur Sewell, M.D., of Les Ecureuils, Quebec, late H.M.'s Bengal Medical Service.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (9.30 A.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.), London Throat (2 P.M.).

TUESDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (18th).—St. Bartholomew's (1.30 P.M.), University College, (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. *Ormond street* (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (19th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.).

FRIDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (21st).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (16th).—SOCIETY OF ARTS.—8 P.M. Dr S. Rideal: *Bacterial* Purification of Sewage. (Cantor Lecture.)

TUESDAY (17th).—PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Mr. A. Barker: Final Sequel to a Case already reported of Removal of Cystic Disease of a supposed Accessory Thyroid (illustrated by lantern slides).—Mr. T. Carwardine: Lantern Photographs of a Case of Molluscum Fibrosum with *Neuroma of the* Brachial Plexus.—Dr. H. P. Potter: Crushing Fracture of the Cervical Spine.—Dr. R. Crawfurd: Cystic Suprarenal Bodies.—Dr. H. D. Rolleston: Cysts in Suprarenal Body.—Dr. M. Fletcher: Tuberculous Cholangitis.—Mr. H. B. Robinson: Multilocular Tumour from Inguinal Canal in a Female.—Mr. C. P. Beadles: Lesion of Pancreas with Fat Necrosis. Card Specimens:—Mr. Carwardine: (1) Papilloma of Rectum discharged *spontaneously*, (2) Enucleated Prostatic Myomata associated with Vesical Calculus.—Mr. Beadles: Healed Perforation of Duodenum after Passage of Gall-stones.

CHELSEA CLINICAL SOCIETY (Holy Trinity Parish Hall, Pavilion-road, S.W.).—8.30 P.M. Papers.—Dr. J. H. Dauber: A Plea *for Greater* Attention to Asepsis in Hospital and Private Practice.—Dr. C. O. Gibbes: Pathology of Mitral Stenosis (addenda to paper read last meeting).—Dr. J. Blumfeld: Administration *of Ether to Infants* and Young Children.

WEDNESDAY (18th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. President: Annual Address.

ROYAL METEOROLOGICAL SOCIETY (Institution of Civil Engineers, Gt. George-street, Westminster, S.W.).—7.30 P.M. Ordinary Meeting. 7.45 P.M. Report of the Council. Election of Officers and Council. Mr. F. C. Bayard (President): *The Government* Meteorological Organisations in Various Parts *of the World* (illustrated by lantern slides).

NORTH-WEST LONDON CLINICAL SOCIETY (North West London Hospital).—8.30 P.M. Monthly Demonstration of Clinical Cases.

THURSDAY (19th).—HARVEIAN SOCIETY OF LONDON (Stafford *Rooms*, Titchborne-street, Edgware-road).—8.30 P.M. Annual General Meeting. Election of Officers. Presidential Address. Annual Conversazione.

FRIDAY (20th).—EPIDEMIOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Paper:—Dr. B. Low: Epidemic Cerebro-Spinal Meningitis.

SOCIETY OF ANÆSTHETISTS (20, Hanover-square, W.).—8.30 P.M. Continuation of Adjourned Discussion on Selection of an Anæsthetic.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (16th).—WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. S. Edwards: The Methods of Examining the Bladder and Rectum.

TUESDAY (17th).—ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Prof. E. Ray Lankester: The Morphology of the Mollusca.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Sir W. Gowers: Epilepsy.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—4 P.M. Dr. T. D. Savill: Cases of Infantile Paralysis.

THURSDAY (19th).—LONDON TEMPERANCE HOSPITAL.—2 P.M. Clinical and Pathological Demonstration to Senior Students.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. S. Edwards: The Methods of Examining the Rectum and Bladder.

CHARING-CROSS HOSPITAL.—4 P.M. Mr. Boyd: Demonstration of Surgical Cases. (Post-Graduate Class.)

FRIDAY (20th).—ROYAL INSTITUTION OF GREAT BRITAIN.—9 P.M. Prof. Dewar: Liquid Hydrogen.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1898, which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in THE LANCET of Jan. 7th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1898 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 6*d.*

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PROFESSIONAL UNION.

WE have noted in another column that a general meeting was held yesterday (Thursday) afternoon of the East Suburban Medical Protection and Medico-Ethical Society, Limited, and a perusal of the annual report of the society makes us select the large subject of Professional Union for a few words of exposition.

The East Suburban Medical Protection and Medico-Ethical Society, which has been formed to promote the interests of medical practitioners in the East of London and in suburban Essex, was called into being by an attempt on the part of the Plaistow Maternity Charity and District Nurses' Home—a pseudo-charitable institution with the methods of which readers of THE LANCET have been kept fully informed (*Abuse of Nursing Charities*, THE LANCET, August 27th and Sept. 17th and 24th, 1898)—to establish a branch in East Ham. A meeting of the local medical profession was held at the beginning of the year in protest against the project of development planned by the Maternity Charity with the result that to a certain extent that project was abandoned. Encouraged by the swift success that followed upon this show of a united front a larger meeting was then held at Stratford and as a result a society was formed and incorporated bearing the title we have already quoted and designed to protect its members against all unfair competition and to safeguard their material interests. In the memorandum of association, a most comprehensive document, the society is said to be established for the purpose of mutual helpfulness in forming a common fund by the contributions of its members ...... to maintain the status of registered medical practitioners, to assist them in carrying on their profession ...... by (among other things)—

(a) Investigating abuses in medical charities;
(b) Attempting to obtain adequate representation of medical practitioners on the governing bodies of medical charities;
(c) Attempting to suppress medical aid societies and clubs which are not carried on by duly registered medical practitioners and in an honourable, professional, and satisfactory manner; and
(d) Establishing a public medical service, a hospital or dispensary, chiefly managed by registered medical practitioners, if and when desired by a majority of the members in general meeting assembled.

There are many other objects set down—in fact, the alphabet is well-nigh exhausted in enumerating them—but all the others, as well as the ones we have quoted, are covered by "(q) To support and safeguard the interests of duly registered medical practitioners" and need not be enumerated now. They deal with such matters as legal protection, debt-collecting, and the establishment of an agency for the transfer of practices.

The first four objects which this young society has set before it seem to us to comprise in themselves an excellent reform programme. If the society can by united effort carry out these in reality as well as in name they will set an example to other medical men everywhere of how to form a professional union (which is not a trades' union). To investigate medical charities has now become the duty of every medical man towards his neighbour and towards himself. The one thing that a "charity" is always ready to give away is medical aid. Let all medical men see that the institutions which offer free or on ludicrous pecuniary terms the services of our profession are managed solely and truly for the benefit of the suffering poor and not for the profit or social aggrandisement of persons richer than the medical men to be exploited. It is well known to all our readers that many so-called "medical aid" societies have only one benefit to offer the members of their association and that is professional attendance when sick, but that in spite of this the unfortunate officers of such societies are underpaid, while they are made the instruments to destroy professional union. The development of those societies which allow all and every person regardless of their incomes to exact service from medical men should be stoutly resisted by medical men in the interests of the public and especially of the suffering poor who lose by their agency the ministration properly due to them. And the most effectual resistance which can be offered is the organisation by the local medical men of a real medical aid society, one which will offer to those whose circumstances make them proper subjects for club treatment good and thoughtful medical treatment by practitioners of standing and experience.

A NEW CASE-PAPER.

MESSRS. JOHN WRIGHT AND CO. of Bristol have sent us some specimens of a new case-paper designed by Mr. J. K. Couch and Dr. E. Le C. Lancaster. On the one side are the usual headings of "Family History," "General Condition," "Respiratory System," and the like, while on the other side are diagrammatic figures of the chest and pelvis from both the back and the front. There are also diagrams of the larynx, the posterior nares, the palatal arch, the tongue, and the soles of the feet. There are in addition views of the side of the face and head, a sagittal section of the female trunk, a view of the female pelvis from above, and plans of the hands and feet. The price is 15s. per 500 or 26s. per 1000, or bound in books of 250, indexed and numbered, 11s. They seem to us to be eminently compact and should prove very useful as a means of keeping a shorthand record of a case.

THE MOTOR TRICYCLE.

To the Editors of THE LANCET.

SIRS,—As a country practitioner I would like to ask if any of your subscribers have any experience of the motor tricycle, and if so, whether they can recommend such means of locomotion to medical practitioners who have long journeys to make.

I am, Sirs, yours faithfully,
OMICRON.

Jan. 10th, 1899.

LYCETOL.

To the Editors of THE LANCET.

SIRS,—The action of lycetol in three cases that have come under my observation has been so marked that I am induced to record my experience and to ask any of your readers who may also have used it whether their experience is similar to mine or whether the results obtained when I was using it were merely a matter of accident. The first case was one of gouty sciatica of more or less intensity for about two years. During a desultory conversation not long since the preparation was accidentally alluded to as having been beneficial in similar instances and though at the time sceptical as to any probable good that might result I decided to try it. After its exhibition for ten days or so very great improvement was apparent. At the end of a month every trace of sciatica had disappeared and it has not since returned. The second case was one of rheumatic arthritis involving both carpal joints, especially the left, and the first phalanx of the left thumb. There was great pain, tenderness, and enlargement of both joints. Lycetol was given in the usual doses of from 8 to 15 grains twice daily, at 11 A.M. and 4 P.M., and on two occasions it was taken thrice during the day. Within six days the pain had practically ceased and within seventeen days the swelling and tenderness in each wrist had greatly subsided, the right one being nearly normal in size and the swelling in the left although not so markedly decreased is still becoming reduced. The third case was not that of a patient but of a brother practitioner who for many weeks had been suffering from gout and whose system was saturated with uric acid. I met this gentleman a few weeks since and related my experience to him as above. As he had been ill for some time with no marked abatement he elected to try lycetol. I heard from him a few days since and he says that the preparation "has done wonders for him" and he "will not be without it for the future." No other treatment was adopted or any other drug used while lycetol was being taken and it was administered in alkaline effervescent mineral water.

I am much interested to learn what it may have done in the hands of others in order to judge whether the rapid improvement in the three instances I have related may be fairly attributed to its use or whether it is to be viewed merely as a series of remarkable coincidences. Should the former prove to be the case we are probably in possession of a valuable adjunct in the treatment of rheumatism and gout and their allied disorders.—I am, Sirs, yours faithfully,

Jan. 3rd, 1899. INQUIRENS.

WANTED A HOME FOR A CASE OF ASTHMA.

To the Editors of THE LANCET.

SIRS,—I would feel obliged if you could inform me through THE LANCET of any places recommended for asthma, and especially of any sort of convalescent home or institution where a case could be taken in; a moderate weekly payment if necessary could be made. The patient is a young woman of about twenty-five years of age, and is a milliner by trade. The case is of the bronchial type and, as far as I can make out, suited by a mild, rather moist air, sheltered from high cold winds.

I am, Sirs, yours faithfully,
CANTAB.

Jan. 9th, 1899.

*** We cannot recommend with any confidence a place that will be suitable for a particular case of asthma. From what our correspondent tells us we think that either Bournemouth or Torquay or else Ilfracombe might perhaps be tried with advantage. Our advertisement columns may give our correspondent the advice which he seeks with regard to a suitable home.—ED. L.

WHY IS THE FEE WITHHELD?

To the Editors of THE LANCET.

SIRS,—May I ask your opinion on the following case? On Christmas morning I was called to see a child suffering from severe burns about the body. I duly attended and thoroughly dressed the child and ordered removal of the patient to the local cottage hospital where I am an honorary medical officer. I saw the child two hours after admission. The child died the same night. An inquest was held and I was called to give evidence. I claimed a fee as I gave evidence about what had occurred in my private practice. The child was never redressed in the hospital so that I could only speak as to the injuries I had seen outside. Am I right in claiming a fee, for it has been refused? Thanking you in anticipation of your answer,

I am, Sirs, yours faithfully,
M.R.C.S.

Jan. 10th, 1899.

*** Under the circumstances narrated we consider that our correspondent is entitled to a fee. He did not treat the patient or attend the inquest save in a private capacity.—ED. L.

FORMALDEHYDE DISINFECTION.

THE Chicago *Railway Surgeon* of Nov. 15th, 1898, states that the Chicago Health Department has abandoned all forms of lamps, autoclaves, and other apparatus for the production of formaldehyde. The disinfectors of the department fumigate some 1200 premises annually. They are now furnished with a bottle of formalin (a 40 per cent. solution of formaldehyde gas in water), several sheets are hung up in the appartments to be disinfected, and the solution is sprayed over them, about 150 c.c. (5 fl. oz.) of the solution to each thousand cubic feet being used. The windows and any cracks there may be are sealed up before the fumigation, and the room is then left for at least four hours. Control cultures of various micro-organisms left in the rooms during the fumigation are entirely killed.

EUCAINE.

To the Editors of THE LANCET.

SIRS,—Would you inform me (1) if eucaine is safe to use hypodermically in *infants and young children* as a local anæsthetic, and if so in what strength and quantity? (2) What is an efficient strength for painting mucous membranes to produce local anæsthesia in small operations like removing nasal mucous polypi, tonsillotomy, &c.?

(3) What is the best method of preparing a solution that will keep without deterioration or decomposition? (4) In spasmodic rigidity of the os uteri in the first stage of labour is the local application of eucaine an efficient substitute for chloral internally and chloroform inhalation? If so, when should it be preferred to the above remedies, is there any danger in its use, and what is the *modus operandi* of its application? If you or any of your correspondents would give me the above information or refer me to any literature that will answer these questions I should be very grateful

I am, Sirs, yours faithfully,

Jan 8th, 1899. IGNORAMUS

*** 1. We do not think sufficient is known of the action of eucaine to make it safe to use as an injection for infants Professor Ponchet read a paper in 1897 before the Société de Thérapeutique showing eucaine to be a dangerous cardiac depressant. 2. From 5 per cent to 8 per cent is the usual strength of the solution of hydrochloride of eucaine necessary to produce anæsthesia for such minor operations. A paper has been read by Dr Maclennan and the late Professor Charteris on eucaine before the Royal Society of Edinburgh Perhaps our readers can give "Ignoramus information on other points in his letter —ED L.

CAULS

A LETTER has been received by a correspondent, a medical man, asking him if he feels disposed to buy a caul or, in case the article is of no use to him if he can recommend an establishment where cauls are purchased. We believe that there is still some market for cauls among sailors who retain their belief in the efficacy of the membranes as a protection against shipwreck and drowning and we endorse the advice given by our correspondent to try the mercantile marine Notices of "Cauls For Sale Within were to be seen recently in windows in the vicinity of the docks both of London and Liverpool but it is some time since we have noticed an advertisement of a caul for sale in the daily press It may be remarked that the sale of cauls so far from being a very ancient custom is a comparatively modern innovation. The witchcraft of the Middle Ages declared against the caul retaining any virtue whatever if parted with by gift or sale to any but a member of the child's kindred Probably it was the midwife as is pointed out in "Credulities Past and Present, by Mr W Jones, who discountenanced this exclusive view of the matter and proceeded to turn the accident of parturition into coin of the realm

"A SANITARY COFFIN"

NEARLY a year ago Mr C S Bowker of Cwmbrau House, Newport, Monmouthshire, sent us a model of what he describes as a sanitary coffin, requesting us to express our opinion upon it. The coffin is constructed of thin metal lined with porous ware. It is closed by porous tiles luted with plaster of Paris. Carefully following the inventor's directions we placed the body of a rabbit in the coffin and sealed it up in the manner directed. At no time did the coffin appear to be offensive After several months the body of the rabbit had shrunk considerably and liquefied The contents, however, were decidedly less offensive than would be the case under other circumstances. The principle appears to be that during the process of putrefaction the offensive gases evolved pass through the porous ware, thus coming into intimate association with the oxygen of the air In this way deodorisation and destruction of the gaseous putrefactive products are to some extent effected.

FOR ONE SHILLING!

To the Editors of THE LANCET.

SIRS,—The following little episode occurring this morning in my practice will I think, interest your readers and the profession generally, while it may serve at the same time to reveal the abyss of degradation to which we are fast hastening A young married woman was shown into my consulting room and forthwith informed me that she presented herself for the purpose of being medically examined for a club which she proposed to join. She thereupon handed me a paper and hastily scanning it down I found one side already filled up presumably by herself, with answers to questions of a personal character but turning the paper over I found as heading "National Deposit Friendly Society, Medical Examination Form, and immediately beneath this appeared the following legend:—

"*Any Registered Medical Practitioner will make the Examination for the Fee of 1s*"

When I had recovered myself I inquired whether this was the fee she expected to pay for my examining her and she replied that she was given to understand that such was the fee the medical man was entitled to Handing her back the paper—to her evident astonishment—I intimated grave doubts as regards *any* registered medical practitioner so far forgetting both himself and his profession but I suggested that if she wrote to the 'National Deposit Friendly Society' it was quite likely they would send down to Windsor one of their own so-called medical officers who for that princely remuneration might be willing to oblige her She promised to write and left quite charmed with the dazzling prospect. Now Sirs, we have seen much of change and so-called advancement in this eventful century but never aught like this—appraised and knocked down at 1s in favour of the 'National Deposit Friendly Society" the skilled labour and scientific research of any registered medical practitioner of Great Britain and Ireland!

I am Sirs yours faithfully,

New road, Windsor Jan 10th 1899 W. LISLE GOODRIDGE.

THE PUBLIC COST OF QUACKERY.

AN inquest was held at Coventry last Saturday on the body of a child who had been attended by a Mr Millerchip, also styled "Dr" Millerchip A few hours before the child died a medical man was sent for on the advice of Millerchip. At the inquest the medical man testified that the deceased had died from laryngitis and pneumonia and in his summing up the coroner, Mr. C W. Iliffe, pointed out that such cases entailed a great and unnecessary expense upon the ratepayers, as the necessity for the inquest arose simply out of the employment of unqualified persons as medical men. These people could not give death certificates nor could qualified men if they were only called in a few hours before the death of the patient, and consequently inquests became necessary We take our account of the case from the *Midland Daily Telegraph* and we see that the coroner's officer during the proceedings put in a letter from our contemporary's columns in which Millerchip stated that he was a qualified medical man There is no one of this name in the current issue of the Medical Register, but a Thomas Millerchip was removed from the Register in November, 1885 having been sentenced to ten years penal servitude for procuring abortion

◆

Reader—There is no such book as "The Earl and the Doctor." The title of the book is "South Sea Bubbles," the authors being described as 'The Earl and the Doctor" The book, a lively and unconventional account of a tour in Polynesia, was written by the late Earl of Pembroke and the late George H Kingsley, a medical man and a brother of the more famous writers Charles and Henry Kingsley.

A B—"Anatomy for Nurses" is a good little book which might be suitable for the purpose, and the first two lectures in Mr. Osborn's book, "First Aid to the Injured" give much information. Why not make a selection from Gray's Anatomy if more detail is required?

H P G and I A A—We have seen the advertising Christmas cards already They were in circulation, we have been informed, before the improper use of our notice was brought to the knowledge of the company,

Scalpel.—We recommend "A Dictionary of Medicine," by *Dr G M* Gould published in England by Messrs Baillière, Tindall, and Cox, King William street, W C

Viator, whose question we answered last week, has sent some stamps which we desire to return to him, but we have mislaid his address.

Public Vaccinator—Yes A sterilised needle or lancet blade is used by some operators and a special instrument by others

Mr F. B. Diver's communication escaped acknowledgment. The paper will be inserted

A Registered Medical Practitioner is thanked for his communication.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS

(Taken daily at 8 30 a.m by Steward's Instruments)

THE LANCET Office, Jan. 12th, 1899.

Date		Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rain fall.	Solar Radia in Vacuo	Maximum Temp Shade	Min Temp	Wet Bulb	Dry Bulb	Remarks at 8 30 A.M.
Jan	6	30 23	S W		50	43	38	40	41	Overcast
"	7	29 86	S W		61	52	41	46	47	Overcast
"	8	29 77	S W	0 03	70	54	47	48	50	Cloudy
"	9	29 58	S W.		75	55	47	47	48	Fine
"	10	29 27	S W		58	52	47	48	50	Cloudy
"	11	29 52	N W	0 11	60	49	39	38	40	Hazy
"	12	29 32	S W	0·29	75	56	40	47	48	Raining

During the week marked copies of the following newspapers have been received: *Grimsby News Newcastle Daily Chronicle Daily Telegraph Lisburn Standard Times of India—Pioneer Mail, Daily Chronicle Norfolk Standard, Preston Herald, Birmingham Gazette Stratford Express Glasgow Evening News, Stalybridge Reporter Glamorgan Times Leyton Express Newry Standard Yorkshire Post Barnet Press Irvine Herald, Liverpool Daily Post Public Health, Star, Indian Daily News, Bournemouth Directory Architect, Builder Citizen Scotsman, Hampshire Telegraph Leeds Mercury Sheffield Independent The Welshman, Sunderland Herald Brighton Gazette Darlington Echo, Dundee Courier, Sanitary Record Reading Mercury, Local Government Chronicle, Mining Journal, Hertfordshire Mercury, City Press, Surrey Advertiser, Daily Free Press (Aberdeen), Evening Gazette (Aberdeen); Local Government Journal Derbyshire Times, Midland Daily Telegraph, Portadown News, Star (Guernsey) Bradford Observer, Walsall Advertiser, Reynold's Newspaper Whitehaven Advertiser Cheshire County News Manchester Guardian Bristol Mercury Nottingham City News Middlesex County Times, West Middlesex Herald, Bath Herald, &c., &c*

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Valedictory Address

ON

OPINION THE SALT OF FACT.

Delivered before the Harveian Society on Jan. 19th, 1899,

BY JAMES F. GOODHART, M.D. ABERD.,
F.R.C.P. LOND.,
PRESIDENT OF THE HARVEIAN SOCIETY.

GENTLEMEN,—When I accepted the honour of becoming your President I had thought from what I had heard that the Harveian was one of those nice "you-need-not-dress-for-dinner" sort of societies that allows its retiring officers to disappear by a euthanasia of music and tobacco unheard of and unsung. But when not long ago I unearthed my copy of the laws of our society I found to my discomfort that a part of your President's *duty* was to give a retiring address. I had, however, been reading Keats and I took happiness from the thought that he had said: "It appears to me that any man may, like the spider, spin from his own inwards his own airy citadel. The points of leaves and *twigs on which the spider begins* her work are few and she fills the air with a beautiful circuiting." The points of leaves and twigs on which I begin my work are decidedly few. I find them stated thus in our laws: "At the annual meeting in January the President shall deliver an address on the objects of the society and the best means of accomplishing them." Never have I read a sentence which filled me with more blank dismay. Its uncompromising decision leaves no opening for strategy. Front and flank seem equally impregnable. But as I sat in the plenitude of my despair this thought came to me: that a society which has reached its sixty-eighth session has already found out its objects and also the best means of accomplishing them, and that I may therefore reconnoitre the past perhaps to more purpose than prospect the future. And this is what I have decided to do.

It is often said in societies of this kind that our object is to obtain facts and not opinions. But, as it happens, I am very fond of opinions, without in the least wishing to decry the more positive value of facts. From my present point of view a fact is dead. While of opinion I would contend, as has been finely said, that promise touches us as finished success can never do. At any rate, as I have sat here listening to the papers which have been read before the society during the year, many have been the interesting points which have crowded into my mind as this reader and that has touched upon the promise of the future. Take the first paper that occupied us by Mr. Mansell Moullin—the Treatment of Malignant Growths by Toxins. It was a most interesting paper, but even so it was so most of all by what it suggested.

I remember that five-and-twenty years ago there was a discussion on Cancer at the Pathological Society[1] which resolved itself into a discussion on, Was it a constitutional or local disease?—did it come, that is to say, from *something* in the individual or from something absolutely in the part itself and outside him? Sir James Paget maintaining that it was a constitutional disease relied much on the argument that its recurrence after complete excision is almost constant or that not more than once in 500 cases does it fail to recur. Sir James Paget very justly says: "Suppose a man to have performed 500 vivisections to determine *such a point as this*—whether a certain mass within the body is altogether local or for the most part constitutional—and suppose he has found that after 500 vivisections he has got but one single exception to the rule that the growth re-appears after removal, he would be a bold man if he repeated his vivisections—he would surely be content with his results." Yes, it is absolutely certain that force is no *remedy for* malignant growths and yet twenty-five years have gone by and we are still as busy as ever removing cancers and ever and ever more early and more completely and still the experiment fails. And so shall we continue to do, for hope springs eternal in the human breast and the enthusiasm of surgery must never be damped by the recognition of defeat. Youthful surgery sins, not by omission; but surgery (not surgeons mind) grey-haired and old would leave us poor indeed.

Yes, we still go on removing cancers, but, as Dr. Moxon said in the same discussion, constitutional and local are not antagonistic terms; and this—although I daresay not in his sense—I have always held myself. I certainly cannot conceive that if a disease be purely local that it could fail to be completely eradicated in a definite proportion of cases, to take the one argument alone, for one cannot do more than touch upon such a question here; and yet there can be no doubt that the disease does begin locally and generalises from the local swelling and therefore I myself should certainly always be an advocate for attempts at a local cure. But I am equally unable to believe that the local element is so absolutely local as a foreign germ would make it or that excision will ever prove alone its cure. I have always thought that a something must be inherited that allows of an irregular distribution or *correlation* of energy between one part and another and that thus growth becomes substituted for function; and no doubt this is no sudden thing; it is a slow process of evolution in the cell elements of this part or of that—and thus I can understand why the surgeon fails to attain his aim. The longer I live the more I become impressed with the reality of an hereditary proclivity to cancer and so thinking it appears to me that whatever local treatment is suggested should deal not only, perhaps not so much, with the complete excision of the *disease as with those unnatural explosions* of energy which bring about the malady.

Thus I think that there have been of late years three distinctly promising and rational methods of treatment proposed. I wish I could add that they had proved to be successful. Some time ago my friend Dr. Inglis Parsons read a paper before this society on the Treatment of Malignant Growths by Currents of High Electrical Energy; he went into the matter in a thoroughly scientific and philosophic manner. And he believed that he might by this means produce some widespread modification of the nutrition of the part and thus make the disease wither. He demonstrated, indeed, that organic tissue can be disintegrated by currents at high pressure, but they failed, as Dr. Inglis Parsons thinks, because of the different resistance offered to the current by the *diseased and healthy tissues through* which the needles pass. I believe this to have been, nevertheless, a distinctly rational and promising hazard. So also seems the proposal under certain circumstances for the removal of organs that condition, or at any rate are associated with, the function of the diseased part—the ovary for cancer of the mamma and the testis in cancer of the prostate—of which we heard something at the reading of the paper that has formed the text of these remarks. This also fulfils my idea of a natural method of attacking cancer and it is possible that it fails just where so many methods of treatment fail in medicine and surgery, because in our anxiety to be neither too soon (that is, meddlesome) nor yet too late one is unable to act early enough. But there must be many cases where the growth is not subject to any known *controlling* power or has no known correlative—cancer of the intestines, for instance—and therefore from one cause or another, at any rate, these measures fail or are inapplicable. For such it is rational, although desperate, to hit out all round so to speak and this has been attempted by the use of a virulent erysipelas toxin. I am afraid so far, as Mr. Mansell Moullin's lucid *résumé* of the history of this method told us, that the procedure as practised with virulent toxin is doomed to a similar fate as its predecessors. It is certainly a measure I should hesitate to advise, the risk appears to be so considerable. And yet may there not be in the idea a stepping-stone to more perfect things? At any rate, I seem to see in it that intuitive feeling after truth which was perhaps expressed in times gone by in the belief that the animal economy does not readily allow two masterful diseases to run concurrently. And surely there is a good deal in this. I see many a one who is asthmatic whose great dread is that of weak lungs—meaning consumption. People do not think nearly so badly of asthma and it consequently conveys a good deal of comfort to a man's mind to be assured—as I believe in the truth of this old doctrine—that his future risks are not those of the consumptive. This was, of course, taught years ago by Rokitansky, but I have heard it [illegible] late. All the same I think it is largely [illegible] an [illegible] the asthmatic never becomes

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[1] Transactions of the Pathological Society of London, vol. xxv., p. 287.

No. 3935

occurrence is rare; and given a case of heart disease which involves more or less pulmonary stasis, or pure spasmodic asthma, or primary bronchitis and emphysema, the chances are decidedly against that person having anything of the nature of consumption.

Then how seldom it is that two specific fevers run together. One may sneak in when some other has left the door open, but two together—no. Again, I know an old gentleman who was apparently incessantly and incurably giddy. At any rate, his trouble was of years' standing and he had long given up all hope of relief by drugs; he had tried too many without avail. He had a very severe attack of double pneumonia which all but cost him his life and he lost his vertigo and it has not returned. The old theory of counter-irritation was based, I suppose, upon some such idea. Years ago it used to be the practice (perhaps it is now) to rub the surface of buboes vigorously with stick nitrate of silver; the counter-irritation of joints is certainly still current practice. How do these act? Is it not that the local conditions called into play by the traumatic inflammation are antagonistic to the free play of the pre-existing disease and this in several ways that it would be tedious to mention? And in cancers, I take it, to cure them we have to alter in some way the local conditions which gave rise to the exuberant growth of the cells. (And, by the way, are cancers always the same? Is the cancer which breaks out in A the same vitally and physiologically as the like histological structure when it occurs in B?) It is very rare indeed to find two separate primary sources of malignant disease in the body. I have once or twice seen cancer of the breast and cancer of the stomach but the occurrence is a curisity. One has therefore to attack some local inveteracy. And the injecting virulent erysipelas toxin might well, I think, exercise a sort of Star Chamber influence upon any such revolutionary quarter if only it could be made to distinguish between the righteous and the wicked. This attribute of selectiveness is what we want and which is so difficult to find.

Another paper which raised a very interesting question was that of Dr. Armstrong on Dilatation of the Stomach. I will not, however, dwell long on this point as I have elsewhere said something already on the matter. The subject was treated of in the paper and discussed both ably and temperately. But I cannot help saying that outside our society I hear talk of dilatation of the stomach much more often than it seems to me to occur. What is common is what now goes by the name of proptosis, and which is a condition that in the great majority of cases does not call for treatment, for it causes no symptoms. For take, say, 100 people, and examine them one after the other at varying times after their morning meal. I venture to say that you will find at least several amongst them who will as late as 12 or 12.30 give to physical examination a splashing stomach coming more or less to the umbilicus, sometimes lower. And yet they will complain of no gastric symptoms whatever. They may not be the robustest of mankind—they will probably be nervous or used up in some way. But they are not cases of gastric disease. Gastric catarrh is the term I find often applied to these cases, but I look upon catarrh as a very dangerous word. It has a likeness to golf in that when once you take to it you become its slave. Perhaps I ought to explain that as regards golf this is not a fact observed by myself, but one stated to me by others, and the Lunacy Commissioners, you will remember, never allow anyone to be deprived of his liberty of action on this class of evidence. So the golfers amongst us need not take up their clubs against me.

I must confess to being unable for the most part to admit the existence of disease that shows no symptoms. Proptosed stomachs and the *fin-de-siècle* dilatation of the heart which one hears so much about from the general public will not live in the nomenclature of disease for that very reason. Dilatation of the stomach and dilatation of the heart are very serious diseases, but they give definite symptoms which suggest their seriousness. But I am not exaggerating one whit when I say that at the present day I am frequently seeing people who are frightened out of their very lives by fear that they have dilated heart when that organ is perfectly well able to take care of itself.

There is a saying, I believe, that a properly regulated domestic establishment should have its own laundry, and therefore as we are all very sweetly sociable here to-night we will do a little washing by making amongst us this whispering confession, that medicine, because it is so noble a profession, is terribly prone to be run away with by a fad. It is impossible to have a right judgment in all things and we are so anxious to cure our patients that we go "tally ho'ing" after many a false scent, and I fancy that if the history of medicine be written in anything less perishable than the sands of time that by-and-by it will stand recorded that stomachs and hearts (possibly duodenums also) furnish conspicuous evidence of the fact. But I have linked these two—heart and stomach—together for the purpose of saying that in the case of each I believe there is a dilatation which runs a parallel course and the course is not what is usually taught. It is commonly held, and of course there is much ground for holding, that the dilatation of each is due to the inefficiency of the muscular walls to drive the contents through narrow orifices; that the work being too much, hypertrophy of the muscle is brought about, and that not being enough the walls of the cavity dilate. Dilatation is the *cause* therefore not the *result* of an hypertrophy which has shot its bolt and failed. In the case of the stomach it is assumed that the pylorus is strictured or kinked or displaced in some way so as to produce an obstruction. I doubt whether there is any evidence sufficient to prove this in the majority of cases. There are a certain number of cases of fibrous cancer of the pylorus in which it is so no doubt. There are, perhaps, a few cases—very few—where a fibrous thickening of the pylorus exists. But it is my strong conviction that this will not explain all the cases of true dilatation which are met with and that the real explanation of some is a primary, passive dilatation from chronic indigestion or defective innervation in the first place with hypertrophy as an attempt to remedy the evil in the second place. I believe a similar sequence of events may occur in the heart, and therefore although I have gently railed at, and think we ought to be very careful to avoid, taking illiberal views of the vital capacity and resistance of our organs, muscular or other, to avoid being morbid in our estimates of what is disease, I yet think that we must be careful in the matter of dilatation of important muscular cavities not to rush to the other extreme and regard as nothing what may be early evidences of serious organic change.

And now to one other point. I was very much interested to hear Dr. Sidney Phillips (in his paper on *the Treatment of Typhoid Fever*) give utterance to the opinion that that disease has changed its type. In the Harveian Lectures which I had the honour of delivering before the society in 1891 I ventured, notwithstanding the almost scorn with which such an idea had been received in Sir Thomas Watson's day, to affirm that diseases must change their type. I took then more especially the *a priori* argument that man is in large measure the product of his environment; that as that changes, as change it must, under the varying conditions compelled by his needs and his rapidly increasing progeny, so must disease change. And I have no doubt that that argument is sound. I attach very little weight to the usual reply that there is no evidence of change—the pneumonia of years gone by is the pneumonia of to-day, and so on—because the changes which occur are insensible. We live in—we are a part of—a general dissolving view. We change ourselves, but so insensibly that had we no means of seeing ourselves in looking-glasses and photographs we should complacently affirm that we were still the same as we were thirty, forty, or fifty years ago. And so we should continue to go on until, in fact, the day when the keepers of the house tremble, and the grinders cease because they are few, and those who look out of the windows be darkened, because man goeth to his long home. Nor do those in daily contact with us see any such glaring change as periodical photographs make ridiculously and painfully plain. The same we are, yet not the same. One may see this also in a more subtle manner by taking some of the novels of the past. Take "Tom Jones" or Miss Burney's "Evelina"—I may even come nearer down and say take even Dickens or Thackeray—and though you may delight in them each and all as giving an insight into the life of their day and generation as recording the play of human passion and emotion common to every age there is much in them which is quite uncongenial and out of touch with the feeling and the interests of the present time. I think it is the same with many old pictures. I go and see the Rembrandts at Burlington House and hear men say, "Ah, we cannot paint like that now." And then I hear that the art of making pigments is lost or that the world's virility in forging genius flags, and that great painters, great poets, great anything, are all of the past. I do not believe a word of it. The explanation to my mind lies in this: that we live in another world altogether, born and bred under altogether different ideas, different schooling of light and shade. The great painters of the past painted their day—they could paint no other—and our painters paint their day—they can do naught else. It is impossible to step across the ages. No plagiarism—if I may so speak of Shakespeare, or Swift, or Fielding, or Burney, or Dickens, or Thackeray—can ever be written, and if it could it would appeal to ears unfitted to receive it and appeal in vain. Two distant periods can never be other than contrasts.

I stood but yesterday on the edge of cliffs where I knew the sea to be advancing and the coast line to be slowly altering in response. But what could I, the wastrel of a moment, see of the change as it passed? Practically nothing. The coarse outlines must long continue apparently the same—it is the fine details that the insensible alterations of its environment must necessarily work upon and modify.

> "But we that are not all,
> As parts can see but parts, now this, now that,
> And live perforce from thought to thought, and make
> The act a phantom of succession."

If in the course of years even our very thought changes all our modes of expressing thought will change too, and language and painting and so forth are evidences thereto. And if so, shall disease, which also, alas, is one of the languages of nature, fail in this? It cannot be.

But with disease it is most difficult to show the contrast because, as I have said, it grows up with us, moulds itself insensibly to our shape, changes insensibly as we change, and thus the pneumonia of a day gone by seems to be very like the pneumonia that we have to deal with now. Then, too, we cannot see the past, and it is so difficult to describe disease. Very few people indeed have the power to do it, and thus the records left behind are very different from the experience of the man who actually handled the disease. So it was, and so it is. What would we not give to have the whole experience, say, of men like Gull and Jenner laid bare before us? Why, the miracle of the loaves and fishes would be shown to be possible even now—for I venture to maintain that there would be many basketfuls of crumbs of insight into disease which would remain over and above the five loaves and two fishes of broad outline with which for the moment we should satisfy our hunger—insights into diseases, many of which in all probability the possessors of the experience had not themselves obtained, but which other minds would light upon with a swift certainty of penetration. But these are all lost to us. But as evidence in favour of change, see what we have done for disease, to mention only a few of many facts. When I was engaged in making necropsies at Guy's Hospital, say, from 1873 to 1883, there was no disease commoner than pyæmia. Such cases would turn up day after day, sometimes two or three in a day. Some operation had been performed, suppuration had occurred in the wound, the veins therefore contained pus, and the lungs of the patient were riddled with abscesses. That disease, of which I have somewhere a large bundle of notes of cases, is practically expunged from our nosology and the medical student of to-day I daresay has never seen such a case.

Typhus fever is another disease that is practically a thing of the past. The last epidemic of the disease in London of any note was in 1869, thirty years ago, when I was house physician at Guy's Hospital. The diseases which may at any rate react prejudicially on the human economy and thus favour the attack of other maladies are being done away with; towns and houses are being made more healthy, the preparation of food is more carefully superintended, living is made more easy to the lower classes, relaxation and recreation are being taken in larger proportions. Surely all these things, by bracing up the health of the subject, must tend to modify the reactions of disease by increasing the resistance to their natural course and even to their very inception. By boiling our water and milk and looking after our sewerage we are doing something to starve the typhoid bacillis of its food. Sir A. Lawes, by doing away with the rotation of crops and cultivating turnips in one field year after year without manure, was enabled to reduce his turnips to radishes, so far as size went. Is there any reason to doubt that the same sort of modification will happen in the case of the starved bacillus of typhoid fever, and if so what would that be but a modification or change of type? I agree *in toto* with what Dr. Sidney Phillips said to us that "typhoid fever tends to vary with the conditions associated with its origin and though such variations are slight individually and gradual in evidence in their sum they suffice in time to produce a considerable modification of the original disease. There is considerable difference in the symptoms described fifty or even twenty-five years ago and those occurring to-day. The difference is marked in the lessened severity of the abdominal symptoms; the tongue is now often moist throughout the disease instead of dry and baked; tympanites and diarrhœa are much less pronounced; probably also hæmorrhage and perforation are less common; tremors and dilatation of pupils are now uncommon; and instead of noisy, active delirium the mind is often clear throughout even fatal cases. The typhoid state with the patient sunk deep in bed, unable to move himself and unconscious or semi-conscious for days, is now quite exceptional; relapses are less frequent, and yet the mortality is not lessened." Dr. Phillips attributes this "to a lessened tendency to ulceration of the intestines, and argues that if so much variation of type has taken place in a quarter of a century, much more has gone on in fifty years, and that where conditions existed such as made typhus rife the distinctive features of typhoid may well have been affected, and that in this is possibly to be found the explanation that the separate diseases were regarded as one."[2]

There are other diseases which change their type perhaps by exhausting the soil by immunisation or otherwise, and of this class I must mention scarlet fever. I seldom see a case of scarlet fever now of anything like the severity which occurred often thirty years ago; I am by no means sure that it has been as frequent of late as it used to be, but I will not make much of that, because epidemic diseases have a trick of lying dormant for a time and recrudescing. But as regards severity I have made a point of inquiring in the last few months of many medical men, and all have without any qualification agreed with me that for the most part it is now quite a mild disease. This may be because, as in typhoid fever, pyæmia, and so forth, we are preventing the disease by boiling our milk and water and isolating the cases as they occur. But in such a widely distributed disease as this has been for now many years, and a disease, moreover, that in various grades of severity yet seems even in the mildest form to have the power of protecting the subject from future attacks, it is possible that a large proportion of the population is now partially immune and that in this way the disease has gradually been undergoing modification towards its ultimate disappearance. I would even take diphtheria as some evidence of the same tendency to transition. Now diphtheria is much more widely spread than it used to be and I do not know that one can say that it is less deadly, but I am much inclined to think one can say this, that its type is not exactly the same as it was years ago. Putrid sore-throat seems to me the term that best characterised the disease then, membranous pharyngitis and laryngitis that which best applies to it now. These carrion throats which one used to see are, I think, seldom met with now, and while there may possibly be more inveteracy about the formation of membrane there is yet, if I may so speak, evidently now something of indolence in the process. And now, in addition to any modifying influence of slow operation such as I speak of, we have the common resort on all sides to antitoxin; this, again, in greatly increased measure, if it sustains its reputation, as it seems likely to do, must work in the same direction.

Well, then, of course no one can talk nowadays of any disease without dragging in gout. He is a capital guest at every party, he has so much conversation in him. So I do not like to leave it out. And, indeed, I cannot but think that gout is a witness also to my theory of to-night. And in this direction—that whereas true gout of the foot or hand is surely less common than it used to be as a disease it appears to have become distributed and now appears in this one and in that in a number of minor ailments. Gouty dyspepsia, gouty bronchitis, and tracheitis, gouty nodulations about the phalanges, gouty affections of the skin, gouty pains here and there, and so on. It may well be discussed whether many of these ailments are really what they are supposed to be, but a common consensus assigns them indubitably to gout and if so I think we may fairly say that from some cause or other the disease is undergoing modification and is now distributed in such a manner as to make it often not easy to distinguish. It appears, in fact, to be undergoing in the body social a similar modification to what it is known to undergo in the body individual, for it needs no saying here that as gout grows old in the individual so it loses its explosive character and is replaced by something that wanders fitfully from one part to another and is less easily controlled by the treatment that once was successful.

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[2] Abstract from Paper on the Treatment of Typhoid Fever, by Dr. Sidney Phillips, Brit. Med. Jour., Nov. 12th, 1898.

A good deal of point, with reference to change of type, was made in former times of pneumonia, some holding that it proved the case against change of type, others that it did exactly the opposite. I incline to throw in my lot with those, if there be any such, who think that the disease is slowly changing and in the direction in which of old it was contended that it was changing—viz., by being less violent in its attack. Pneumonia is a very common disease, but it is not common to see those furious outbursts which I think I saw more often twenty years ago. I very seldom see now those few days of acute pyrexia and the sudden crisis and the patient is well. It has become a disease which drags on ten or twelve days or more, is more inclined to spread from one part of the lung to others in an insidious way, and then, too, is it not now more prone to produce empyema than it used to do? Mind, I am not stating these thing as facts. I am avowedly giving you only my own impressions. I am making it my business to set you thinking, because, as I have said, this is one of the main objects of our society. But we know more of pneumonia than we used to do; we know now that it is associated with the growth of the pneumococcus. And we also know that there is many an empyema which appears to be only an empyema that contains the same organisms in the fluid. We know a further fact which seems to me to be of importance. Pneumonia is a very common associate or result of influenza and I have had the expectoration examined in several of these cases in the expectation of finding the special influenza bacillus, but no, the report has always been that the pneumococcus was present. So has it been in influenzal empyema. Now there can be no doubt, I suppose, that the pneumonia associated with influenza is a peculiar one. We all know how often it creeps about the lungs and will not clear up and there is no crisis, yet it is associated with just the same micro-organism as what I may perhaps call the old-fashioned croupous pneumonia. This seems to me to be a bit of evidence which goes to show that acute pneumonia is modified by its reaction with other diseases, that it is indebted to the open door left by influenza—and if by one disease why not by others?—for some of its power for harm, and that therefore by the increase in our knowledge and the more thorough application of hygienic measures a further attenuation or destruction of its influence may be compassed.

I have only time to mention one other disease and that shall be appendicitis which in my opinion has become an appallingly common disease of late years. Now this again is an *obiter dictum*. I am unable to give much proof but thinking matters over as dispassionately as I can I cannot think that it was met with years ago in anything like the frequency that it is met with now. I know, of course, that it will be said that it passed unrecognised and that it is like many another disease: when we begin to look for it we find it much more often than we supposed. But I cannot admit this so well for appendicitis as I could for many another disease. Because it is such a serious malady attended with acute symptoms and, moreover, it is a disease which was well known and recognised certainly before I entered the profession of medicine. I cannot think that within my time the disease has been smuggled away as simple peritonitis or tuberculous peritonitis. And I believe that for some reason or other it has increased in frequency. There is no reason why it should not. Diphtheria has increased in frequency. But there is the greatest possible difficulty in assigning any cause to the fact. Perhaps a new bacillus has cropped up, but I have my doubts. I do not see why the bacillus coli communis which is supposed to be the organism at fault should be new; it seems a very natural inhabitant of the part affected. It would be a strange thing if the colon were not the home of all sorts of bacilli, notwithstanding what tends to be, I think, one of the fads of the present day—that by giving a little β-naphthol, or salol, or creasote, or one of the fifty other "intestinal antiseptics," you can keep the colon as sweet, say, as the stomach. I am a great believer in the colon. It is a great absorbing organ As long as food is in the small intestine it is fluid—never solid—directly it passes into the colon it becomes solid. That can only mean that absorption goes on vigorously in the large intestine and I am in consequence an ardent opponent of people scouring themselves out with daily pills and potions. But if it is a great absorber it is also the main sewer. There is much in it which is cast out into the draught and which no antiseptic does much to clean. Nevertheless, it will lock up its contents in many a one for several days together and that with the smallest appreciable ill effects. This is not to be considered as an advocacy of constipation, it is only a passing caution in this day of ptomaines, antitoxins, and intestinal antiseptics—ideas which are all of them good in their place—that an ideal pathology or pharmacology may easily be made to outrun wisdom and common-sense.

To return to appendicitis, if it is more common than it used to be the reason is at present veiled—but the increased frequency of a disease may be said in some degree to be a variation of that disease inasmuch as it gains a firmer hold upon the community—and in so doing tends, one may suppose, to become by cultivation either of greater severity or to wear itself out like ringworm on the skin or as I suppose scarlet fever to be doing by gradually using up the available soil.

But I must draw to a close. Before doing so let me give one instance which may at first sight seem to weaken the argument for change of type in disease. That instance shall be influenza. I need not go into what our experience of influenza has been during the last few years. We are only too painfully familiar with it. But let me read you an extract from the pen of Huxham of Plymouth in 1733.[3] "On Feb. 10th some were suddenly seized; the day after they fell down in multitudes and on the 18th or 20th of March scarce anyone had escaped it. It began with slight shivering, followed by transient heats, headache, violent sneezing, flying pains in the back and chest, violent cough, and a running of thin sharp mucus from the nose and mouth. A slight fever followed, with the pulse quick but not hard or tense. Several had racking pain in the head, many had singing in the ears and pain in the meatus auditorium, also sometimes an abscess formed; exacerbations and swelling of the fauces were likewise very common. The sick were in general much given to sweating, which when it broke out of its own accord and was very plentiful, continuing without striking in again, did often in the space of two or three days carry off the fever. The disorder in other cases terminated with a discharge of bilious matter by stool. It was rarely fatal, and then mostly in infants and old worn-out people. Generally it went off about the fourth day, leaving a troublesome cough often of long duration and such dejection of strength as one would hardly have suspected from the shortness of the time. The cough was in all very vehement, hardly to be subdued by anodynes, and it was so protracted in some as to throw them into a consumption." In another place the same writer talks of the tongue looking as if rubbed with cream, large spitting, a sudden, nay a profuse, diarrhœa, with violent griping, &c. Few would fail to see in this description—Huxham appears to have been one who could describe what he saw—the very disease which has been with us on and off since 1889. But even here there is one important difference, for it is said to have been seldom fatal.

Measles, again, is another disease which does not appear to have altered much; the description given by Sydenham in 1670 would read exactly for the disease now. It has varied in intensity from time to time as all epidemics are wont to do. But, then, of these two diseases I think it may be justly said that they are of more epidemic type—influenza certainly is—and diseases which come and go, particularly those which reappear only at considerable intervals, have less chance of modifying their type by the continual friction of their environment; thus in their recurrence they drop into more or less virgin soil and run their natural course unhindered. Then, too, both these diseases have much in them that is common to a feverish cold, and colds are proverbial for the way in which they victimise repeatedly the soil that suits them; apparently they are turnips which would never become radishes. There are those amongst us who never "catch" them. Would that those who do so might "catch" instead the hidden secret of their success. But for a large proportion of humanity, I take it, they are of the minor ills we suffer, of those of which we stand most in dread. Nothing seems to stop them; they attack us again and again, and indeed it may almost be said of them that the more we have the more we may And this would certainly appear to be true of influenza We have all come across many people who having had influenza some years ago have had repeated attacks of something like it ever since It is said that the recurrent attacks are not true influenza, but it is really very difficult to say in some of these cases in what the results differ from the cause Moreover, in both these diseases it is very difficult to say what is the disease, for both, it is clear, make an open door for the entrance of the pneumococcus, the bacillus tuberculosis, the streptococcus, and so on

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[3] Creighton's History of Epidemics.

There are many other points on which I had wished to have touched in the many excellent papers which have been brought before us In the paper on Functional Dysphagia, by Dr StClair Thomson, why is it that dysphagia so nearly always bespeaks a cancerous stricture? Here is another of those points in muscular pathology which is not without its suggestiveness in relation to stricture obstruction and muscular failure elsewhere There is the paper on the Subsequent History of Adhesions in Joints, the Peritoneum, and Elsewhere, by Mr Marsh, which could not fail to touch on many a moot point in pathology and treatment, for the serous and synovial membranes are of the most interesting of all our parts they are at once so constitutional and so local But time fails me What I have said has been very crude, I have been away from books These remarks are also very topsy turvy, but then that is not altogether inappropriate for I have turned things somewhat upside down by my contention that opinion is the salt of fact But is it not so? Solid observation must ever be the main object and the basis of the work of a society like this, but around it there is a legitimate sphere of influence for that stimulating if nebulous atmosphere of thought which sometimes enables the poetic insight of the genius to piece discovery together.

> 'Maybe wildest dreams
> Are but the needful prelude of the truth'

Turning now more particularly to our society and its doings, I was about to say that we have had an uneventful year, but from the point of view which I have taken in my address I must not say—I will not say—that it is so, for, indeed, any paper to which honest thought and work has been given cannot be other than an event and any one of those to which we have listened may contain the germ of an epoch even although as yet we see it not. But in another respect our annals have been sadly eventful, for some of our great ones have fallen during the year Our honorary members are limited to 12, and of these no less than 4—Dr Cleveland Dr Hare, Sir William Jenner, and Sir Richard Quain—have all left the Land of Promise and have entered the great Continent of Fulfilment Surely one may say of all of them, so far at all events as our small medical world is concerned, "They sleep with the enduring dead"

A Lecture

ON

MEDICAL LONDON.

Delivered at the South place Institute

BY E BAXTER FORMAN, MD BRUX, M.R.C.P. LOND, MRCS ENG, L.C.C, J.P.

LADIES AND GENTLEMEN —I am indebted to your honorary secretary, Mr Shoewring, for the admirable title of this lecture. I shall not be far wrong in assuming that what is meant by it is, What are the public medical services? how is London governed from the medical side? I propose to speak in detail on some parts of the subject but only to glance at others. Poor law administration and sanitary administration seem the natural divisions into which the subject falls, but there are *some* duties which do not come under either head First as regards Poor law administration It is controlled by the Local Government Board and partly carried out by the guardians, partly by the Metropolitan Asylums Board, and partly by the London County Council The sick poor are attended by a district medical officer elected by the guardians in virtue of orders issued by the Local Government Board which defines his duties An important reform of late years is that the guardians supply the medicines which are compounded by their own dispenser For some time the guardians have had the power of providing hospital accommodation and nothing in the treatment of the sick poor shows so much advance as the provision of the new Poor law infirmaries. There are now 24 of them with 12,000 beds While of old the workhouse sick wards were filled with the infirm and the incurable the new parish hospitals treat all non infectious diseases They are built according to modern ideas, they are liberally equipped, and the skill of the medical staff and the training of the nurses leave nothing to be desired These institutions do not supply all the wants of the sick *poor of London* In all continental cities, though there are *small charitable institutions* the great hospitals are aided either by the state *or* by the municipality Here as you know it is different and it is our boast that these noble institutions are supported *entirely* by voluntary subscriptions They open their doors as freely and as eagerly as if they were paid for the generous duties which they perform They are the most democratic of institutions, for they enable the poorest and the richest (*more* than the class between) to benefit by the same skill In 1897 there were 91 hospitals with 7234 beds in daily occupation, 99,178 out-patients were seen, and 1448 persons were received as *in patients* The *medical staff numbered* 1055 and the nursing staff was 2660, while the income was £690,006

THE CERTIFYING OF PAUPER LUNATICS

Perhaps the most important duty of the district medical officer is the certifying of pauper lunatics The supposed lunatic may be brought before the medical officer as an ordinary parish patient; or the relieving officer whose attention has been called to the case by the friends may bring him into the workhouse for examination, or the police may have arrested him while wandering about the streets Anyway, a magistrate must examine the supposed lunatic with a medical officer If he is found not to be insane he is discharged to his friends If his case is doubtful and if it is thought he may recover very quickly he is legally detained in the workhouse for fourteen days; if, however, there is no doubt about his case he is certified as a person of unsound mind and is sent to one of the county asylums Now the guardians lose him and he passes under the care of the London County Council Admitted to the asylum he is examined and notes are taken of his symptoms and history by one of the medical officers and a little later he is visited by some members of the managing committee of the asylum who are necessarily members of the Council During his stay he will be seen by members of the committee and certainly at the statutory inspections, and any complaint which he makes or any grievance which he alleges is duly investigated *Even here his* protectors are not exhausted Periodical visits are made to him by the guardians of his parish and more important still are the visits of the Commissioners of Lunacy The Commissioners are a body of six experts, three of whom are medical men and three are lawyers The total number of lunatics and imbeciles chargeable to the parishes and unions in the County of London on Jan 1st, 1898, who were in asylums, licensed houses imbecile asylums, workhouses, and with relatives was 20 482, against 16,358, ten years ago On Jan 1st, 1898 the accommodation in our own county asylums was 11,777 beds, against 7725 ten years ago The increased accommodation includes extensions at Cane Hill and at Claybury and temporary buildings at Banstead and at Colney Hatch Lately we have *opened some* temporary buildings at Hanwell At Bexley Heath Asylum *accommodation for 2000 patients* is *fast* approaching completion, it has indeed, already admitted a number of chronic patients Horton temporary buildings for 700 patients will be ready in a few months, while the permanent asylum *there will be ready in two years* The guardians pay the Council 9*s* 11*d* a week for the maintenance of each person I may add that the cost of the maintenance of the lunatics to the Council is just under half a million a year *By a very odd arrangement the London County* Council has nothing to do with the imbeciles or harmless lunatics, as they fall to the lot of another body which I shall describe directly, the Metropolitan Asylums Board Claybury Asylum commenced by the magistrates and finished by the Council, cost nearly three q[illegible] of a million pounds It is unlikely, [illegible] asylum will be so expensive. The Council is doing its best to overtake the requirements of London and is proceeding in its work with care and circumspection. It has got the gigantic task now well in hand and soon it will be no longer necessary to go outside our own asylums for the housing of our lunatics. We may, however, look to having to provide for 600 additional cases every year. You may ask what has rendered this great increase of accommodation necessary? Well, there are many subsidiary causes, such as lessened death-rate, &c., but the great cause is the increase of population. Is insanity, you may ask, really on the increase? It is to a small extent in London. The greatest causes of insanity are drink and heredity. Nay, often the drinker has inherited some weakness of will, some mental instability, for even alcohol will not drive everybody mad. Alcohol sifts out the susceptibles who if they miss the grave of the suicide march straight to the wards of an asylum. But do not let the man who is able to carry his liquor without showing it think he will escape. Retribution limps after the topers who remain and slowly but surely overtakes them at last, and our hospitals bear witness to physical maladies which are equally the result of intemperance. It may not be out of place to say that we do not stand still in the treatment of insanity. From the continent of Europe, from the United States of America, we are seeking to learn anything which can be taught us. We are employing the highest skill in trying to elucidate the dark problems of mind disease and whatever we find to be best either in the construction of the buildings or the treatment of the unhappy inmates will be adopted.

VACCINATION.

Another duty of the Poor-law medical service is the performance of vaccination. It would be better if it were in the hands of the central rather than the local authority. Lately the public *mind* has been *much* exercised on this subject. A powerful Government introduced an admirable Bill, but finally made such concessions that what at last passed into law was only the emasculated form of what was originally proposed. The Royal College of Physicians of London at their meeting just before the Act was passed said that, "Having learnt that certain changes are likely to be made in the law relating to vaccination we think it is our duty to reiterate our conviction that vaccination properly performed and duly repeated is the only known preventive of small-pox." The Royal College of Surgeons of England about the same date reported: "We, the Council of the Royal College of Surgeons of England, desire to put on record our opinion of the value of vaccination as a protection against small-pox. We consider the evidence in favour of its life-saving power to be overwhelming and we believe from evidence equally strong that the dangers incidental to the operation when properly performed are infinitesimal. Experience has satisfied us that even when vaccination fails to give complete exemption from small-pox it so moderates the severity of the disease as not *only to greatly reduce* the mortality but to lessen the frequency of blindness, disfigurement, and other grave injuries. We would therefore regard as a national calamity any alteration in the law which now makes vaccination compulsory. We are, moreover, firmly convinced that revaccination is *an additional* safeguard and should be universally practised." A Royal Commission after sitting for seven years reported unequivocally by a majority of 11 to 2 in favour of vaccination. They say that they found vaccination a valuable preventive of small-pox, that the process could *not* be safely abandoned and replaced by other precautions, and that while some of the alleged dangers are real they are in truth unimportant in relation to the extent of vaccination work done and are diminishing under the better precautions of the present day. Yet in spite of this, in the very *land of* Jenner the new Vaccination Act lets even modified compulsion give way before the conscientious objector and revaccination is *not mentioned* at all. As the years go by we lose with the ardour the enthusiasm of youth, the credulity, the faith in the virtues *of many* things, but yet after thirty years spent in a wide field of observation and with now no interest to serve but that of promulgating what I believe to be right action I still believe in vaccination. What are the objections *to it*? 1. It is alleged that vaccination is inefficacious. Early *in* the century the decline in small-pox astonished the world, for nothing had been seen like it. It was not due to improved sanitation, for there was no sudden spreading of new ideas on this subject—it was due to vaccination. Mr. Holman Hunt the other day, in a letter to the *Times*, relates how in 1852 he had asked the then veteran judge, Mr. Stephen Lushington, his view of the relative beauty of ladies in the passing day and seventy years previously. The answer he got astonished him. "You can have no idea how it was that not more than one person in twenty then was undisfigured by small-pox and this generally to such an extent that whatever beauty there had been was seriously marred. It followed that when a woman escaped there was a disposition to regard her as a beauty for this cause alone and if, in addition, she had chiselled symmetrical features and good form of face and figure the admiration of her amounted to worship. The difference," he concluded, "I see now is that every woman we meet would have been a beauty in my early days." I inquired some years ago at one of our small-pox hospitals as to the mortality among its nurses and was told that *no nurse was* allowed to enter the service whom they could not sufficiently vaccinate, but that with that precaution no nurse had taken the disease. During thirty years the total number of boys who passed through the Bluecoat School was 5435 and only 1 of these had had small-pox. *After the epidemic* of 1871–75 it was decided to pass a general vaccination law for the whole of the new German Empire (I am quoting a book recently published by the Imperial Health Officer of Berlin and I may say I asked Professor Virchow about it the other day). Vaccination was strictly enforced under penalties on all infants and again at twelve years of age with the result that small-pox has practically been abolished in Germany ever since. Small outbreaks do occur from time to time, nearly all on the frontier, but the death-rate per million is almost *nil*, and in the army only one death has occurred since 1874 and that in an unsuccessfully revaccinated case. But no one can escape the law. 2. It is alleged that there is risk in the operation of vaccination, but if care is taken that no ailing child is vaccinated and the strictest antiseptic precautions are used with what should always be regarded as an important operation there is little fear of a bad arm from erysipelas or the like. A more serious danger is lest certain grave diseases may be introduced with the lymph, but our fears on this ground may be at once allayed, as it is no longer necessary to vaccinate from arm to arm as all danger is avoided by the use of glycerinated calf lymph. The calf is not liable to those diseases we most dread and glycerine has the power of killing disease germs from other sources. Before the new vaccine is used it is ascertained by the modern methods of bacteriology to be pure. It is curious that a healthy-born infant when nursed by a healthy mother is generally well for the *first three* months of life. Yet out of 568,907 deaths at all ages, 148,093, or about one-quarter, occur under one year of age. It is at the age of three months that vaccination has been usually performed and it has so received the blame for many ailments with which it could have no possible connexion. The new Act at least alters this. 3. Vaccination is, it is alleged, an interference with the liberty of the subject. The dictum of John Stuart Mill was that the only purpose for which power can be rightfully exercised over any member of a civilised community against his will was *in order* to prevent harm to others. Surely vaccination is a case in point. The great name of Gladstone was once the means of recommending the influence of authority in matters of opinion. Englishmen are apt to be governed by phrases and catchwords and too ready in every instance of a great *principle* to carry it to its logical conclusion, even to their own undoing. It is part of my duty to listen to summonses brought by school board officers against parents for not sending their children to school. A father will tell you that his son is sent to school but that he himself has to go to work and cannot tell whether the boy attends or not. A widow complains that she has to keep her eldest girl at home to mind the baby while she is out charing. The Education Act will have none of *such* excuses. It disregards the liberty of the subject and knows *nothing* of the "conscientious objector" and the result is that the magistrate must impose a fine. Up to now one-third of the children have escaped vaccination because the guardians fail to put the law into operation or because the magistrates refuse to convict. The best defence for the Government is that it was imperative that something should be done for the objector and that if they ceased to make martyrs they might get more converts. At present the new Act has brought little but ridicule. Next year a Revaccination Bill is promised and it is to be hoped that the common-sense of most people will avert the dire penalty which will otherwise be certainly enforced.

The Metropolitan Asylums Board.

The Metropolitan Asylums Board came into existence under Mr. Gathorne Hardy's Act. It is not a directly elected body. A few of its members are nominated by the Local Government Board, the rest being chosen by the guardians from among themselves. Perhaps the most curious thing about this Board is that it has not charge of the asylums except in the case of Darenth, Leavesden, and Caterham, which are reserved for imbeciles. I have already said that the care of the lunatics is the duty of the London County Council. At Darenth also the Board, a hospital-providing authority, has a school for imbecile pauper children. Another curious thing is that the Metropolitan Asylums Board has other schools, so that in this big London you have not only the London School Board, which would seem to be the proper authority, with its elementary schools, its higher grade schools, its evening continuation schools, its schools for the blind, and so on, but you have the London County Council with its schools, the parishes with their schools, and the Metropolitan Asylums Board with its school. Imagine the case of a street arab who has not benefited by the Education Act sufficiently to know the difference between *meum* and *tuum*. He may be sent to the London County Council's reformatory school at Feltham, to one of their industrial schools at Mayford, to the School Board ship *Shaftesbury*, or to their school for truants at Highbury; or he may be sent to a parish school such as that at Forest Gate or to the Metropolitan Asylums Board's school on the training-ship *Exmouth*. Surely there is some anomaly in all these school-providing authorities each supported out of the rates. The Gathorne Hardy Act allowed parishes to combine and so bring about a classification of paupers—that is to say, it allowed the infectious cases to be taken from the workhouses and infirmaries and placed in special hospitals by themselves. In 1889 the Metropolitan Asylums Board was made the recipient of all certificates under the Notification of Diseases Act with the duty of paying all the expenses which are incurred. Scarlet fever, diphtheria, typhoid fever, and typhus fever are the chief diseases mentioned in the Notification of Diseases Act and they must be notified in every case and a certificate sent by the medical man attending the sufferers to the medical officer of health of the district, and this must be done whether the patient is intended to be sent away from his home or not. The dealing with these infectious cases is, after all, the great work of the Metropolitan Asylums Board. During the year 1897 there were notified in the metropolis 45,417 cases of infectious disease. Of these 39,257 were legally eligible for admission into the Board's hospitals and out of that number 22,964, or 58 per cent., were actually admitted. It is a notable feature in the work of the Metropolitan Asylums Board that although they are legally responsible for the providing of hospital accommodation for persons suffering from infectious diseases chargeable to the guardians—in other words, for paupers—yet that with the approval of the Local Government Board they permit the admission free of charge of any person reasonably believed to be suffering from fever, from diphtheria, or from small-pox. Typhus fever, the disease of overcrowding and poverty, once so prevalent in London, seems almost to have disappeared; typhoid fever is admitted into general hospitals and is well under control; and small-pox for the time being is absent and has its own special hospitals. Measles and whooping-cough are not included in the notifiable diseases, so that scarlet fever and diphtheria are the two diseases which give the most trouble to the Metropolitan Asylums Board. Scarlet fever stands first. There were 22,848 cases of this disease notified last year. While the deaths from typhoid fever, thanks to sanitary measures, have fallen from 377 per 1,000,000 persons living in London in 1869 to 129 per 1,000,000 in 1897, diphtheria in spite of all our sanitation seems slowly increasing each year. 1899 showed 12,803 cases of this disease against 5870 in 1890. In scarlet fever to take the patient out of his insanitary surroundings and give him plenty of pure air will do something to help him, while with isolation and disinfection we may hope to limit the spread of the disease among the rest of the community. Against diphtheria we have now a weapon of great potency—the new serum or antitoxin treatment. When administered early in the disease its effects are marvellous and it has reduced the mortality of the disease by one-half. The medical officer of the London County Council shows by figures the great influence of school attendance on the spread of diphtheria. It rises during the term and falls during the holidays. Of the ambulance work of the Metropolitan Asylums Board its managers are justly proud. There is nothing so complete in Europe. In the year 1897 22,916 persons suffering from fever, diphtheria, and small-pox were conveyed to the various hospitals of the Board, 8941 convalescent patients were taken to the Northern and Gore Farm Hospitals, and 8917 recovered patients were brought back to London. Altogether 42,758 removals were effected by the land ambulance in 1897. In addition to this there were four steamboats forming a river ambulance, and these in the same year conveyed 1283 persons to and from the hospital ships at Long Reach. This ambulance service cost nearly £10,000. The Metropolitan Asylums Board has now eleven hospitals without counting the small-pox ships. The Grove Hospital, it is hoped, will be finished this year, and with the erection of the Southern Convalescent Hospital and some enlargement of the other existing hospital the Board will then have over 6000 beds for these infectious cases, not counting Gore Farm which with its 740 beds acts as a convalescent fever hospital when not wanted for small-pox convalescents. Though since 1887 the managers have practically doubled their accommodation for fever patients which has now, as their report asserts, reached a magnitude of which no one dreamed five years ago, it records for five years in succession the entire failure of the accommodation to meet all the demands made upon it during a season of the greatest pressure. In 1897 an important addition to the work of the Metropolitan Asylums Board was made by an order of the Local Government Board. The Board are now the authority for dealing with children chargeable to some parish in the metropolis when suffering from: (*a*) contagious diseases of the eye; (*b*) contagious diseases of the scalp (ringworm); (*c*) requiring either special treatment during convalescence or the benefit of open air; (*d*) who by reason of defect of intellect or physical infirmity cannot be properly treated in association with children in ordinary schools; and (*e*) who are ordered by two justices or a magistrate to be taken under the Industrial Schools Act to a workhouse or asylum of the district. St. Anne's House, Herne Bay, is used as a convalescent home and a site for an eye hospital has been secured at Brentford.

Ambulance Work.

Before I pass to the next branch of my subject I shall just notice the treatment of street accidents. There were 300 deaths from this cause last year. The police for the most part deal with sickness or accidents occurring in the public highway. They are almost invariably trained to give first aid to the injured, but should the case require treatment before the sufferer can be taken to a hospital the police surgeon is called in, or failing him the nearest medical man. If the police send for the surgeon payment is made from Scotland Yard. Sometimes in criminal cases it is necessary to send for a medical man and then if possible the police surgeon is called. This same official has to attend at the police station and dress the wounds of the accused or decide between intoxication or insensibility from disease. The police have ambulances of their own but there are two voluntary associations providing ambulance carriages for the streets. A gentleman who had organised an ambulance service for Paris came to me when I was chairman of the Public Health Committee and advocated a plan of horse ambulances for the streets with surgeons in constant attendance. As we manage our street traffic better than they do in Paris perhaps there is no necessity to imitate our neighbours in this respect. The physicians who advise the Home Office in cases of alleged insanity in criminals and give evidence in matters of medical jurisprudence, the surgeons in gaols, the medical officers of the Post Office, the medical officers of the army and navy, and the medical officers appointed by the London County Council to be called to common lodging houses in cases of suspected infectious diseases, and others do not come within the scope of this paper and I therefore pass on to the work of sanitary administration.

General Sanitary Works.

The work of the sanitarian interests all of us, for everyone is concerned in a movement the object of which is to prevent disease and to prolong life. There was a time when plague, pestilence, and famine were looked upon as Nature's means of getting rid of a surplus population whom it was difficult to feed and from the national [illegible] individual, something might be said for that view if epidemics only struck at the physically unfit, the insane, or the vicious; but with new ideas of heredity, with humaner views as to the sanctity of human life, we do our best to keep even the weakest alive and it is in this their environment that the sanitarian finds the field for his labours. With 4,500,000 people crowded together in the largest city the world has ever known we shall see what London has done to solve the problem before it. The first fact of vital statistics which strikes us is that the death-rate increases with the density of the population. In 1891 there were 829,765 persons living in tenements of four rooms or less. 37,055 persons lived 5 in a room, 17,232 persons lived 6 in a room, 5158 persons lived 7 in a room, 1844 persons lived 8 in a room, 83,580 persons lived 8 in two rooms, and 14,310 persons lived 9 in two rooms. Some time ago Professor Carnelly and others reported to the Royal Society as the results of numerous experiments "that as we pass from four-roomed and upwards to three-roomed, two-roomed, or one-roomed houses not only does the air become more and more impure as indicated by the increase of carbonic acid and organic matter, more especially in the micro-organisms, but there is a corresponding and similar increase in the death-rate with a marked lowering of the mean age at death; and that the rapid increase in the death-rate as we pass from four-roomed to one-roomed houses is by far most marked in children under five years of age. The death-rate among these young children in one-roomed houses is nearly four times that of children in four-roomed houses while the general death-rate is not quite twice as great."

The duty of keeping London healthy is divided between the London County Council, the Corporation of the City of London, the Thames Conservancy, the vestries, and the district boards. The cost of this process for one year according to the latest returns was £1,014,474, or 4s. 9·53d. per head of the population. In this sum, however, is included main drainage, the prevention of the pollution of the Thames, and the cost of some of the parks and open spaces. Now these are all matters of vital importance to the public health, but as they are not administered from the medical side I pass them over. For similar reasons I say nothing about the water-supply except to show what powers are possessed in this connexion by the sanitary authorities, though I acknowledge at once that the water-supply of a great city should form a branch of its public health administration.

Certain Government departments exercise authority through medical channels. The Home Office administers the Factory Act for the whole of Great Britain. Its chief inspector is a medical man with a medical staff and locally there are factory surgeons. The Secretary of State for the Home Department deals with schemes for housing the working classes which have been prepared by medical officers of health and officers of the Council. The Local Government Board is the particular department having Poor-law and sanitary administration under its control. Its medical inspectors make reports on epidemics such as that of small-pox at Gloucester and that of typhoid fever at Maidstone, on phosphorus poisoning in match-making, on the lead industries in the north of England, and on sewage-contaminated oysters. The Board of Trade has certain quasi-medical duties with regard to food unfit for consumption.

The London County Council is responsible for several details of health administration. It has its staff of medical officers and sanitary inspectors. It has authority over the vestries and district boards in the metropolis and where any default is shown to exist it can compel these boards to perform their duties. The Council stands on a different footing from other county councils and from large municipalities in that it possesses administrative functions inherent in both counties and cities and also that it has the power of reviewing the action of local authorities within its area. It makes by-laws for the prevention of nuisances and these by-laws the vestries must enforce or the Council may institute proceedings against them. These nuisances relate to bad drains, ashpits, accumulations of refuse, removal of dust, the bad ventilation of workshops or their uncleanly or overcrowded condition, the emission of black smoke from chimneys, and the non-provision of sanitary conveniences in connexion with workshops and dwellings. Nuisances from dust and filth in the streets, from offensive matter emanating from manufactories and from slaughter-houses, the paving of yards and the keeping of animals—indeed, almost everything likely to be dangerous or injurious to health—come under its control. I have said something of the powers of the Council with regard to infectious disease. This body deals with the disinfection of houses and clothes and the destruction of bedding. Premises and apparatus are provided for disinfection and free temporary shelter and in cases of death from epidemic disease the Council provides for speedy interment. The by-laws with respect to disinfection of carriages which have conveyed persons suffering from infectious diseases are particularly strict. The Council deals with offensive businesses. It inspects and makes by-laws for slaughter-houses and knackers' yards. It may cause all dairies and milkshops to be registered and it makes regulations for the inspection of these places as to space, ventilation, lighting, and cleansing, and for precautions against infection. The vestries prohibit the sale of milk where infectious disease exists. Then the vestries have power over the sanitary condition of bake-houses. Their medical officers of health inspect shops and enforce the law with regard to diseased meat and unsound food. The London County Council may require water companies to give a constant supply and it may apply to the Local Government Board to alter the regulations of the companies. The Local Government Board tests the water supplied by the companies as do also the vestries and I need scarcely say that the London County Council promotes Bills in Parliament relating to the water-supply. It has recently spent £40,000 in this manner. Then in the absence of prescribed water-fittings and premises deemed unfit for occupation the vestries can proceed as in the case of a nuisance and may compel the owner to provide a supply of water. If the water is cut off the owner must close the house. Before a new house can be occupied the vestry must certify that it has a sufficient water-supply and it can enforce the cleansing of cisterns. The company, too, must give notice before cutting off the water-supply. The vestry can take proceedings to close houses unfit for human habitation. It can deal generally with overcrowding and it has powers with regard to underground rooms which are unsuitable for dwelling places. I ought to speak of the important work of the Port Sanitary Authority, but time fails me.

With regard to the work of the public analysts employed by the local authorities it is impossible to read the report published by the Local Government Board without seeing how important it is and what protection it affords to the very poor who are compelled to buy their food at the cheapest rate. We read of the substitution of margarine for butter, of cream being taken off the milk and replaced
by water, and often with what the report calls quite medicinal
doses of boric acid. What would be the case if there was no
fear of analysis of these articles and no fine for their adul-
teration? The local authorities might do much more with
regard to houses let in lodgings if they would only put into
force the powers conferred upon them. They make the by-
laws but they do not register the houses, and thus they lose
an easy method of closing a house unfit for habitation. I
am quite aware of the answer made by the local authorities,
that if you drive these people from where they now are
it will be to some place more crowded and less decent.
More accommodation is needed. This is the reply we
got in Bethnal-green. Yet the London County Council
here has built a miniature city of artisan dwellings
on the Boundary-street area and in the most hygienic
and picturesque fashion. The fact is these dwellings,
cheap as they are considering the many advantages they
give, are for the better-class of workmen and they are quite
out of the reach of the poor costermonger whose favourite
quarter is Bethnal-green. I still believe if some Peabody
could arise and clear away the slums and erect buildings suit-
able for the very poor that a small return on the capital could
be obtained. The London County Council is too hampered
in its operations with insanitary property. It has too high a
standard for its buildings. The medical officer of health
having drawn attention to the slum, if the scheme is feasible
and the consent of the Home Secretary has been obtained,
the Council or the local authority, or both, proceed to clear
the site under compulsory powers. Then so many must be
re-housed on the spot, so many within a mile. Few, if any,
of the old residents occupy the new accommodation provided
for them. We ought with cheap trains and tramways
worked by electric traction to get more into the country.
We ought to lessen the obligation to employ the site only
for housing the working classes and thus be able to provide
accommodation a little distant from the spot which has
been cleared. Some of the land could then be sold
for commercial purposes and the clearing of the

London slums could then proceed at a more rapid rate. So valuable is land in the metropolis that no doubt in time by a process of evolution all property of the nature we are discussing will be pulled down to make way for warehouses and offices which pay better, but we cannot wait for this. In the proposed Holborn to the Strand Improvement the cost of land for housing will amount to £260 for each person while within 1½ miles it would be £9. The liability to have to pay the whole cost of the land in sixty years is absurd.

THE ADVANCE OF THE MEDICAL OFFICER OF HEALTH.

From what I have said I think you will see that the medical officer of health is becoming every day more and more highly specialised and more able to cope with the prevention of disease and of insanitary conditions. Elected by the local authorities and partly paid by the London County Council and controlled by the Local Government Board, could the mode of appointment be improved? Do not the trammels of local influence, not to say the routine of their office, dwarf some of their powers for good? Sir Benjamin Hall's Act which created vestries has been in operation only about forty years, but during that time the death-rate in London has fallen one-half. England has always been the pioneer of hygiene, but if she has something to teach she has also something to learn. Ignorance, says a recent writer, pervades the minds of a large section of the public as to the elementary laws of ventilation as shown in the stifling air of churches, theatres, law courts, schools, and even bedrooms; the smoke-polluted atmosphere of our large towns continues with little effort to alter it. We are indifferent to the dangers arising from the consumption of tuberculous meat and milk, yet a Royal Commission has lately reported that any person who takes tuberculous matter into the body as food incurs the risk of acquiring tuberculous disease; and again as long as animals suffer from tuberculosis so long will there exist a fertile source of that disease among human beings. The Commissioners recommend the abolition of private slaughter-houses and the establishment of public abattoirs, and certainly we must have an improved inspection of our meat, whether killed in London or elsewhere. The inspector at Deptford told the Royal Commission that he often examined 1000 *carcasses a day; what could such inspection* be worth? The case of milk is even worse. Meat at least is always eaten cooked and so the dreaded bacillus is generally killed, but milk is often taken raw, though it could be heated and cooled in a way that would impair its taste but little. Some experiments of Professor Delépine show that out of 93 specimens of milk taken at random in Manchester 17 were tuberculous. It does not follow that every child who drank of this milk would get consumption, though the danger to one with a sore mouth would be very great, but there can be little doubt that a large part of the increasing tuberculosis of *childhood is due to tuberculous* milk. The need, therefore, of skilled supervision of the milk supply is very great. Again, tuberculosis does not exhaust the dangers of milk, for typhoid fever and other diseases are unquestionably spread by this means.

And now, though I have not exhausted my subject I have, I fear, exhausted your patience I think I have shown you the need of overhauling our health administration. It wants simplifying. There are too many authorities. It is not a case for more decentralisation but for more centralisation, for a general, uniform, coherent system. The Government, indeed, might well initiate some fresh legislation. We have a Prime Minister's authority for saying, "It is not the rearranging of political machinery; it is the improvement of the daily life of the struggling millions and the diminution of the sorrows which so many are called upon to bear which is the task, the blessed task, that Parliaments are called into existence to perform."

A CASE OF MOVEABLE THIRD KIDNEY.

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IN the following case an independent third kidney was found on abdominal section and the extreme rarity of such a condition induces me to place it on record. Here a well-developed kidney was found on the right side of the lower part of the spinal column just at the brim of the pelvis, having its own ureter and blood-supply, and distant about from 3 to 4 in. from the right kidney, which was felt in the right loin and apparently of normal size. The hand passed up into the left loin also grasped the left kidney which was somewhat smaller than the right. In this case the symptoms were no doubt due to the mobility of the kidney and probably to slight pressure on, or kinking of, the ureter.

As regards anatomical literature I have consulted Professor Hughes and find that very little has been said about supernumerary kidneys. In the tenth edition of Quain's Anatomy, having referred to the common malformation—viz., horseshoe kidney—and to the absence of one kidney, the writer says: "The occurrence of an additional kidney is extremely rare; the supernumerary kidney is placed either in front or on one side of the vertebral column or in the pelvic cavity." In most standard works there are only statements to a similar effect. Debierre ("Traité d'Anatomie") relates a case recorded by Gavard where three kidneys were situated against the lumbar spine, the ureter of the central kidney opening into the ureter of the right kidney. This he regards as a case of complete division of the right kidney. There are also cases recorded by Adami, Day, and Halasy of complete double ureter attached to one kidney and several cases of single (lateral) kidney by Birmingham, Dwight, Menzies, Mackey and Koch, and Tweedy. The following are the facts of the case which came under my observation.

A woman, aged twenty-two years, had been under the care of Mr. Coalbank of Teddington for some time suffering from indefinite abdominal pain, indigestion, and a general hysterical condition. The only special feature in the *symptoms* was that when the pain was severe there was diminution in the quantity of urine passed. On examining the abdomen Mr. Coalbank detected a swelling below the umbilicus which was tender and corresponded to the chief seat of the pain. Early in January, 1898, I saw the patient with him and examined her under chloroform. An irregular, flattened, tender swelling was readily felt behind the right rectus muscle at the brim of the pelvis. The swelling was somewhat but by no means freely moveable and had a nodular character. It could not be felt from the pelvis and evidently had no connexion with the pelvic organs. As to *the exact nature of the swelling we could not arrive at a* definite opinion. The idea of a moveable kidney which presented itself among other suggestions was discarded on account of the situation of the tumour and the fact that it could not be pushed into the loin. As, however, it was evidently the chief source of the patient's trouble it seemed desirable to explore and ascertain the exact nature of the swelling and see whether anything remediable could be done. This I did on Jan. 18th, 1898. On opening the abdomen in the middle line it was found that the tumour was situated behind the peritoneum resting on the *right side of the lower* lumbar vertebræ and the brim of the pelvis. The peritoneum having been divided over the swelling and some fat around it having been cleared away it was exposed and presented the appearance of normal kidney substance. It was now thoroughly protruded through the opening in the peritoneum and presented the shape and size of a normal kidney except that it was distinctly lobulated. The hand was then passed up into each loin and a kidney found normally situated on each side, as has been already stated (this fact was verified a second time before the abdomen was closed). The *condition* was thus clearly one of supernumerary kidney and the patient's trouble was essentially due to slight mobility of this organ. I made no attempt to fix the kidney by stitches as that would have been very difficult and I hoped that the tearing and disturbance necessary to expose it would lead to such adhesions as would sufficiently fix it in its place. The kidney was therefore returned to its former position, the peritoneum was brought together over it, and the abdominal wall was closed in the usual manner with deep and superficial stitches. On Jan. 4th, 1899, Mr. Coalbank writes to me that the *patient* "has lost her usual plaintive frame of mind and is well and happy; she has had no medical attendance since her return from the seaside after the operation."

Harley street, W.

BUDLEIGH SALTERTON COTTAGE HOSPITAL.—The annual meeting of this institution was held on Jan. 12th. The financial statement showed [illegible] in hand of £72.—On the motion of Dr. R. W. [illegible] decided to [illegible] patients at a [illegible] weekly.

NOTES ON THE DEMONSTRATIONS OF METHODS IN GASTRIC THERAPEUTICS.[1]

BY FENTON B. TURCK, M.D.,
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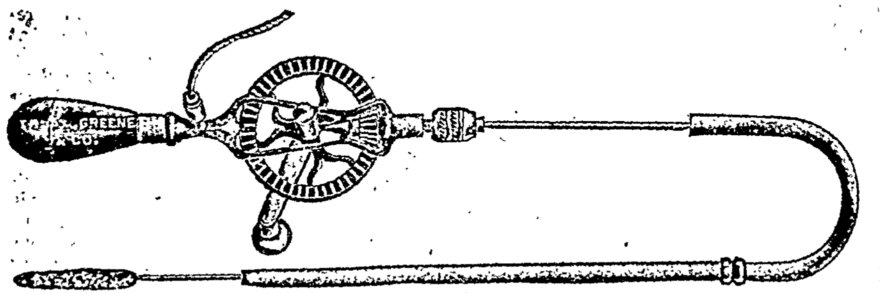
THE first essential element of rational therapeutics is a correct diagnosis based on the history of the case, its symptoms as observed by the physician, and thorough and exact methods of clinical examination. The evidence of the anamnesis and rational symptoms is as important in its way as any part of the general examination by means of such instruments of precision as the microscope, the test-tube, and all other paraphernalia of the medical laboratory and ought not to be undervalued. After all the data from all these sources are obtained he is best able to correctly diagnose the case whose judgment, ripened by study and experience, can best select and compare all the facts, giving each one its proper value, and then can estimate and harmonise the whole. The chemical methods of examination in gastric diseases have been carried by the Germans to an extreme refinement. Since Ewald first introduced the soft rubber stomach-tube this has been most extensively utilised in variously modified forms for both diagnostic and therapeutic purposes. The German literature on the chemical examination of the gastric contents by the use of the tube would fill many volumes and yet after twenty years' experience we find that little dependence can be placed upon the chemical methods and their results for diagnostic and therapeutic purposes as compared with those of directly mechanical methods. In 1894 I had the honour to present before the International Medical Congress in Rome a method for examining the stomach that looked more into the physical condition of the organ than into the chemistry of its contents. Demonstrations of the method were also made in that same year at Vienna, Berlin, and other cities.[2] Without going into any criticisms of the various other instruments and methods devised for the purpose of determining the position and physical condition of the stomach, some of which methods have done, and undoubtedly still do, great service in the hands of sufficiently skilled and experienced physicians, the medical profession is, I think, still in want of a rapid and practical method by means of which the position, size, and motor power of the stomach can be determined with accuracy and in all varieties of morbid states.

One of the instruments and methods there described for the first time in Europe, somewhat modified and considerably improved during the four intervening years of clinical practice and experimentation, I now present to you (Fig. 1).

FIG. 1.



The gyromele or revolving sound, with sponge attached to the cable.

The instrument I have called the "gyromele," though for most of you the term "revolving sound" may be more familiar and descriptive. It consists of a flexible rubber-coated steel cable, to one end of which is attached a soft sponge and to the other an apparatus for producing revolutions, not unlike a surgical drill. When the instrument is to be used the cable is first slipped through a rubber tube long enough to reach through the œsophagus to the cardiac opening and cable and tube are then introduced into the stomach. The cable and sponge are then pushed further down into the stomach and the drill is attached to the external end. As the now rotating and vibrating cable is pushed further down the sponge glides along the greater curvature, the pylorus, and the lesser curvature; while the cable adjusts itself to the shape of the stomach, and its motions can be distinctly felt by the hand upon the abdominal wall.

From the evidence of several hundred cases upon which the gyromele has been used both for diagnostic and therapeutic purposes during the last four years I believe that we can safely conclude that by means of this instrument it is possible to determine with practically absolute certainty—1. The exact outline of the stomach on the abdominal walls, the greater curvature, the lesser curvature, the fundus, and the pylorus. 2. The character of the stomach walls: (*a*) any considerable thickening of the walls is unfailingly discovered because of the varying ease and plainness with which the sponge revolved against the wall can be felt on the outside; and (*b*) the distensibility of the stomach can be more readily and more accurately determined by simply using cables of different degrees of flexibility than it can be determined by any other method. From its distensibility the motor power can be quite accurately estimated in cases where there is no pyloric obstruction, as has been repeatedly found by experiment. The pyloric obstruction if present is discovered in the process of the sounding of the stomach, pylorus, and duodenum. 3. In addition to the above complete diagnosis of the physical condition of the stomach the gyromele has been found to be an unfailing means of discovering atrophy and, indeed, of distinguishing atrophy from functional achylia. This is due to the fact that the revolving sponge is quite as effective as any test meal for stimulating the secreting glands to almost immediate activity. On withdrawing the cable the sponge is found saturated with the gastric contents and this furnishes ample material for bacteriological and qualitative chemical tests. If the gyromele is allowed to remain in the stomach for a few minutes (which does not inconvenience the patient) the stomach contents will within fifteen minutes invariably contain HCl unless there be atrophy of the HCl secreting cells. In order to thus determine with certainty the presence or absence of cellular atrophy the gyromele is revolved a little longer than usual and the stomach contents are examined about fifteen minutes after the withdrawal of the gyromele cable. The contents will then invariably contain hydrochloric acid unless there be glandular atrophy.

Before proceeding to practically demonstrate the use of the gyromele for these purposes it may be as well to call attention to the objection which has been raised against it by some on the ground of danger to the patient. This objection is wholly unwarranted so long as there is no case on record where the gyromele has produced injury to a patient. Neither in private practice nor in the large hospital practice of myself and my students has there ever occurred such a case and I have yet to hear of it from any other source. The gyromele is, in fact, less dangerous than the universally used stomach tube for the simple reason that the end of the cable is of sponge and this when wet, and especially when covered with mucus, is as soft and slippery as the mucous membrane itself. The reason for ascribing such danger to the use of the revolving sound must be the fact that it can be so easily and distinctly felt through the abdominal walls, but this is due simply to its rapid motions and vibrations which are very perfectly transmitted through the abdominal tissues and the patients soon become so accustomed to the gyromele treatment that its use does not produce any marked feelings of distress. In addition to the above I must also, in justice to myself, defend my priority in the introduction of the flexible sound as against the claims of Dr. Kuhn of Giessen. The flexible revolving sound was used and described for the first time in Europe by me in 1894 as has already been stated. Its utility for sounding all regions of the stomach and duodenum as well was clearly set forth in my demonstration at Rome in that year, while Dr. Kuhn's first publication on this subject appeared in 1896. Since Dr. Kuhn in his publication makes no mention of my much earlier work on the subject it must be supposed that he knew nothing of it at the time. Be this as it may, the fact remains that he has not added a single new feature to the instrument which was shown in 1894 and his claims to priority either of the instrument or of any method of using the same is, to say the least, in every essential unwarranted.[3] We will now proceed with the demonstration.

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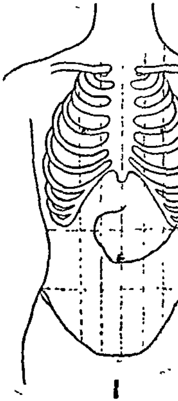
[1] Abstract of Demonstrations and Lectures given at St. George's Hospital, London, on August 8th, 9th, and 10th, 1898.

[2] Wiener Klinische Wochenschrift, 1895, Nos. 1 and 2.

CASE 1. (August 8th, 1898).—The patient, a woman, aged fifty-one years, began to have stomach trouble about a year ago and since that time has continually grown worse until she at present is so weak that she cannot leave her bed. The food that she eats, as well as the gastric secretions, seem to accumulate in the stomach until she is forced to vomit so as to obtain some relief from her distress. The vomited matter shows all the characteristic indications of retention. Examination shows general emaciation with panniculus adiposus absent. There is no cachexia. The chest organs are almost negative as regards physical signs. The abdomen is retracted in the left epigastrium and in the umbilical regions a bulging may be observed. This is due to the enlarged stomach as is shown by slight peristaltic movements, which can be recognised. Yesterday, three hours after a meal consisting of beef and bread, we found on passing the "intragastric reagent capsule"[4] into the stomach that the Congo paper and the dimethyl amidoazo benzol paper showed no free HCl, while the litmus paper indicated a faintly acid reaction. To-day on withdrawal of the stomach contents ten hours after a meal we find again no free acid and we do find quantities of food particles. We now introduce a very flexible gyromele with the patient lying on the bed, and by the palpating the revolving sound upon the abdominal wall we locate first the greater curvature at the umbilical line, and by pushing the cable further into the stomach until the revolving sponge impinges against the lesser curvature we find it located just below the border of the left lobe of the liver. On withdrawing the gyromele and testing the liquid which can be obtained by squeezing the sponge we find again that there is no HCl present in the stomach. The outline and position of the stomach as thus determined are shown by the diagram (Fig. 2).

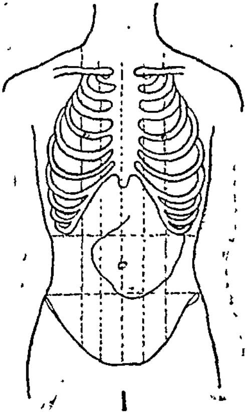
FIG 2



The outline of stomach as given by the movements of the light flexible cable.

In order to determine the degree of distensibility of the stomach we now pass in a gyromele having a somewhat less flexible cable than the one just used and again determine the outline of the stomach by palpating the revolving and vibrating sound. This time with the patient sitting upright we find the greater curvature below the umbilical line and quite near the hypogastric line while the lesser curvature can be distinctly outlined just above the epigastric line. As shown with this second cable (see Fig. 3) we find that the stomach is only slightly dilated but that this is a case of marked gastroptosis with very lax ligaments, the stomach being freely moveable in its position. The long duodenal cable is next introduced for the purpose of sounding the pylorus. The sound is obstructed as it reaches the pylorus and further pushing only elicits signs of pain. The tip of the revolving sound can easily be recognised and the palpation indicates a hardened and thickened pylorus, but no tumour can be felt.

FIG. 3.



The outline given by the movements of the less flexible cable.

From the tests thus made we arrive at the following diagnosis:—1. Absence of free HCl after various test meals together with the failure of the gyromele to produce a secretion of the acid would indicate atrophy of glands. 2. The slight dilatation of the stomach, together with the ease with which the whole viscus can be pushed downwards, as shown by the use of cables of different flexibility, indicates the presence of gastroptosis and the thickened walls show hypertrophy. 3. The long retention of the food indicates either motor insufficiency due to myasthenia or pyloric obstruction and as the duodenal sound indicates a hardened and thickened pylorus we conclude that this is a case of stenosis pylorica. In view of the fact that the pyloric obstruction, notwithstanding the marked hypertrophy, is almost complete I recommend immediate operation.

[Through the courtesy of Dr. Ewart, the attending physician in charge of the case, the following hospital report has been received:]

"Operation was performed by Mr. Jaffrey on August 17th. No outlying mass of cancer or glands could be felt. The stomach was of moderate size with thick muscular walls and did not reach below the umbilical level. Owing to its dropped state it could be easily pulled through the incision as well as the pylorus. The pylorus and its vicinity were free from peritoneal adhesions or thickenings. There were a few superficial pyloric venules and minute whitish specks but no important engorgement. The gall-bladder was greatly distended with bile. Marked thickening could be felt not only at the pylorus but 1 in. or 2 in. along the duodenum and 2 in. or 3 in. along the lesser curvature. This decided Mr. Jaffrey to prefer gastro-jejunostomy to pyloroplasty and this was accordingly performed with satisfactory results, the patient doing well for two days. On the third day she began to vomit. Exhaustion set in on the fourth day when she died. At the necropsy no tympanitis or peritonitis could be found. The external and the stomach wounds were sound. The thickening which had [illegible] was found to be almost entirely muscular, traversed from within by a few fibres from a thin radiating deposit with white fibrous tissue in the submucous layer. In connexion with this the mucous membrane at the pylorus and for 1 in. beyond was atrophied, glistening, and striated.

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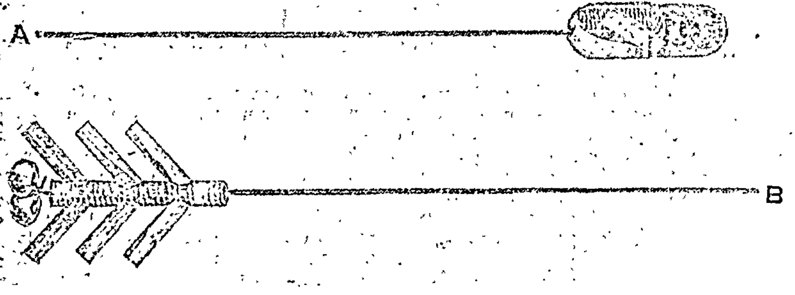
[3] Turck: Die Priorität der Sondirung von Œsophagus, Magen und Eingeweide mittels der Gyromele (biegsamen Revolvirsonde), Centralblatt für Innere Medicin, No. 8, 1898.

[4] See Fig 4.

"There appeared to be nothing in the case, judging from these appearances, incompatible with complete recovery from the gastric dilatation, as well as the gastroptosis, had the patient's strength been equal to the surgical ordeal. The case tends to show how slight may be the impediment which leads to these fatal results."

From what has just been said in regard to the use of the gyromele it must not be inferred that this instrument is the one thing or the only one to be used in the diagnosis of diseases of the stomach. On the contrary I would insist that the successful diagnostician of these diseases must have at his command all the methods which have been shown to be valuable, and to such an extent that he will know how to vary them in their application to the needs of each particular case. The test meals and the soft rubber stomach tube, for example, are devices for which the profession must gratefully remember their originators. Moreover, cases arise where the stomach tube as well as the gyromele fail us for the simple reason that we dare not use them. Various more or less successful devices have been got up to meet the needs of such cases.[5] In how far these meet the requirements of European practitioners I do not know, but I have found the following method to be of great value where the stomach tube cannot be used. In the *Journal of the American Medical Association* for April 23rd, 1898, I presented a device called "intragastric reagent capsule" which does possess decided advantages over the older sponge tester, silver bucket, pith-pellets, &c. The intragastric reagent capsule contains a small piece of rubber drainage tube about an inch in length slit so as to carry three test-papers. Through the tube is passed a silk thread carrying a good-sized lead shot at the end. The tube with test-papers and the shot are enclosed in an ordinary gelatin capsule. The capsule is easily swallowed and sinks readily to the bottom of the stomach. In five minutes the capsule will be dissolved, the test-papers will be saturated, and the tube will be filled with the stomach liquid that will not run out because the lower end will be closed by the shot. When the string is withdrawn the three test-papers coloured with litmus, Congo red, and dimethyl-amidoazo-benzol paper respectively will at once indicate the chemical nature of the stomach contents. The liquid in the tube can be used for duplicating the tests or for microscopic examination.

FIG. 4.



A, the intragastric reagent capsule, containing the indiarubber tube, reagent papers, and lead shot, as shown in B.

CASE 2.—This patient, a robust-looking young woman, aged twenty-two years, has just entered the hospital with the diagnosis of ulcer of the stomach. She complains of a penetrating pain in the left epigastrium, near the costal arch. She has had frequent spells of vomiting, these sometimes passing into paroxysms of pain, when the vomited material would contain more or less blood. The physicians in charge have on the strength of these symptoms, upon which Brinton has laid especial stress, made a diagnosis of ulcer and have referred the case to this hospital for treatment. It is easier to describe characteristic symptoms of ulcer of the stomach than to make the diagnosis at the bedside. In at least 75 per cent. of the cases of ulcer there is an increase of the HCl and the other 25 per cent. show hypochlorhydria or very rarely a case of achylia. Therefore, if the excess of HCl is found together with the above three characteristic symptoms, localised pain, vomiting, and hæmorrhage, the diagnosis of ulcer would be very much strengthened. But we are prevented from determining the state of the gastric secretion by the danger of passing the stomach tube and by opposition from the patient. We may, however, have the patient swallow this intragastric reagent capsule which is neither more dangerous nor more difficult to swallow than a bolus of food. The capsule is weighted inside by means of a good-sized shot and its rapid entrance into the stomach is hereby ensured. We wait five minutes, allow the capsule to dissolve so that the test-papers may come in thorough contact with the gastric contents. On withdrawing the capsule test-papers we find that they are unchanged and that there is therefore no hydrochloric acid present in the stomach; the litmus paper shows there is in fact no acid reaction whatever. Closer investigation now reveals the fact that while the pain is more intense in the region of the costal arch it is also quite diffused over the epigastric region. We also learn that the pain is not particularly increased by taking food and that the hæmorrhage was at no time very profuse. These facts tend to throw considerable doubt on the diagnosis of ulcer. Now since by the use of the capsule the patient's opposition has been lessened we may now pass the stomach tube and on withdrawal of the contents we find that there is no acid present. Having thus found the presence of ulcer highly improbable we must look for other causes of the slight hæmorrhage which has occurred, and as râles can be heard in the apices of the lungs, especially in the right apex, we must consider the possibility of pulmonary hæmorrhage and if this be excluded we may diagnose the hæmorrhage as pharyngeal or œsophageal. Under these circumstances we certainly have no reason to consider this a case of ulcer and may recommend a more vigorous line of treatment.

The following report has since been received (September, 1898): "I may add to the report concerning the young woman that she continued to improve, gained weight as well as strength, and lost the slight râles that we had discovered at the right apex.—Wm. Ewart."

Therapeutics.—The first essential element of rational therapeutics, as was mentioned at the beginning, is a correct diagnosis and these demonstrations illustrate in a measure what was said in regard to having a sure command of the chemical and still more of the physical factors that must be considered in the accurate diagnosis of gastro-intestinal disorders. What is true of diagnosis is emphatically true in therapeutics of stomach diseases. Chemical reagents, medicines, have their proper uses and no conservative physician would attempt to do without them. Medical men are, however, at present agreed that the physical condition of the stomach is of far greater importance than its secretory function and the pathological disturbances are largely mechanical, such as motor insufficiency. The logical outcome of this fact are the modern attempts to improve this physical condition by physical means, such as lavage, massage, exercise, "electrisation," and a variety of mechanical stimulating devices. The gyromele described above is most useful as an instrument of diagnosis. In addition, however, it has a therapeutic value which can scarcely be over-estimated. It removes mucus and other adherent débris from the entire inner gastric surface and by subsequent use of the needle douche[6] the stomach can be cleansed far more perfectly than by any other method. By means of the gyromele any desired antiseptic can be applied to the entire surface of the stomach; the combined rotatory-vibratory motions of the gyromele give at the same time a very stimulating massage to every part of the organ. That the massage given by means of the gyromele must be very effective is evident when we consider that the mere contact with solid food in the stomach is sufficient to stimulate the circulation in the gastric walls and to produce the muscular contractions by which the food is churned during digestion. A systematic massage by means of the gyromele improves rapidly the motor power and the circulation of the stomach and these results are in turn followed by a diminution of the mucus and often by a restoration of the secretory function to normal conditions In addition to these patent advantages of this instrument it has been found to act better than any other electrode for electrical stimulation because it permits direct application at any desired area of the stomach walls For these reasons the gyromele is used in my private and hospital practice and clinics more extensively than any one other device

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[5] Edinger: Deutsches Archiv für Klinische Medicin, Band xxix., p. 555. Einhorn: Medical Record, July 19th, 1890. Spaeth: Münchener Medicinische Wochenschrift, Band xxxiv., 1897, p. 1011.

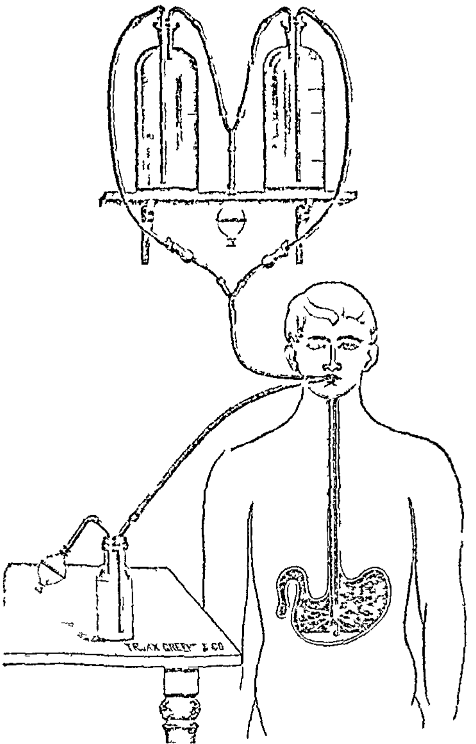
[6] Journal of the American Medical Association, June 22nd, 1895.

The intragastric resuscitator which I show here needs but little description (Figs 5 and 6) It consists simply of a double stomach tube[7] to one end of which is attached a soft rubber bag[8] which was originally devised for the purpose of reducing surgical shock and collapse[9] The bag when collapsed fits closely around the stomach tube and is easily introduced into the stomach Its use and purpose in gastric therapeutics can be illustrated upon the following case

CASE 3 —This patient, a keeper of a public house forty two years of age is suffering with Raynaud s disease The patient is unable to walk and for the last six weeks has been confined to his bed The hands are pale (local syncope) and the feet are bluish (local asphyxia) There is a complete absence of radial pulse and the heart beat is small and feeble The abdominal physical symptoms are negative The temperature in the axilla is 98 8° F in the rectum it is 99 2°, and on the skin (inner side of the calf) 92 1° The patient was given a bath about an hour ago, we now introduce the intragastric resuscitator The double tube with attached rubber bag is passed into the stomach and we pass a continuous current of water through the tube and bag beginning with water of 125° F and gradually increasing its temperature to 130° In surgical shock we use temperature as high as 135° The water is cooled in the stomach by the rapid transmission of heat to the tissues but as the current of water is continuous the high temperature is maintained and this acts as a powerful vaso motor stimulant upon the œsophagus the stomach walls and upon the splanchnic area and also reflexly on the heart As the œsophagus and gastric walls become heated as well as the great vessels in proximity the warmed blood is rapidly carried to the periphery by the circulation stimulating the cells and producing a dilatation of the previously contracted peripheral arterioles The congestion of the splanchnic area is also rapidly reduced and a more abundant supply of blood is carried through the heart The heart beats in consequence become stronger, the hands and feet begin to show warmth, and the improved colour of the skin can be observed as the treatment is kept up This is particularly noticeable under the finger nails where the normal pink shade is gradually replacing the pale whiteness observed before we began the treatment Half an hour's treatment is sufficient We syphon off all the water from the bag and remove it and the tube from the stomach The extremities now show warmth the colour of the hands and feet is much improved the eyes are bright and the face presents quite a rosy tint The patient feels stronger, is able to get out of the bed and walks supporting himself to a rolling chair, and seems in general to be very much strengthened The heart area is normal, the beat is full and strong and there is no reduplication of the heart sounds The temperature one hour after treatment per rectum is 100°, in the axilla it is 96 6° and on the skin it is 95 5° (According to a later report the patient left the hospital much better and stronger This case was used for the purpose of demonstrating the method of using the intragastric resuscitator and to show its physiological effects)

The advantages of the intragastric resuscitator are —1 The heat is applied in a uniform and diffuse manner of much higher temperature than dare be used with water in direct contact with the mucous membrane The temperature here used (from 130° to 135°) is in most cases necessary in order to produce the desired stimulation. 2 The exhaustion produced by passing large quantities of warm water directly into the stomach (which dilates the splanchnic vessels) is avoided while the hot water used by the above method produces stimulation of this area without exhaustion 3 The removal of the necessary secretions and nutrient material is entirely avoided 4 The degree of temperature as well as the quantity of water used within the bag is under the complete control of the operator

FIG 5



The intragastric resuscitator apparatus for the needle douche and for washing out the stomach

Fleiner refers to lavage as follows ' The changing distension and emptying of the stomach act upon the walls of the stomach like local gymnastics Motility is rapidly improved atony disappears ' &c (Quoted from Baruch's Principles and Practice of *Hydrotherapy* 1898 p 280.)

A more effective and satisfactory method for giving the stomach this exercise has been used for some years in my clinics and private practice The alternating distension and contraction of the stomach is more perfectly accomplished by the use of air instead of water

Pneumatic gymnastics of the stomach —By this means the distension is more uniform in all directions and the objections to the heavy load in an already prolapsed, dilated and weakened stomach is entirely avoided Moreover, the dilatation by the use of water takes place in one direction only—namely, downwards—while the air acts equally on all sides giving all the musculature of the stomach that most effective extension and contraction which is known to be so valuable to weakened muscles of other parts of the body. I had the honour to present at the recent meeting in Edinburgh by invitation of the British Medical Association a full description with reports of experiments and cases of the apparatus and methods used to produce pneumatic gymnastics.[10] The method briefly is as follows. A double stomach tube is introduced into the stomach and is connected on one side with a manometer and on the other with a compressed air cylinder. The cyclinder has previously been filled with air at rather high pressure (3 or 4 atmospheres) by means of a small hand-pump. By then opening a stopcock of the cylinder air is allowed to distend the stomach until the manometer connected with the closed exit tube indicates the desired pressure. The stopcock is here closed and the exit tube is opened. The compressed air in the now quite distended cavity rushes out and the gastric muscles contract vigorously, aided by the contractions of the abdominal muscles.[11]

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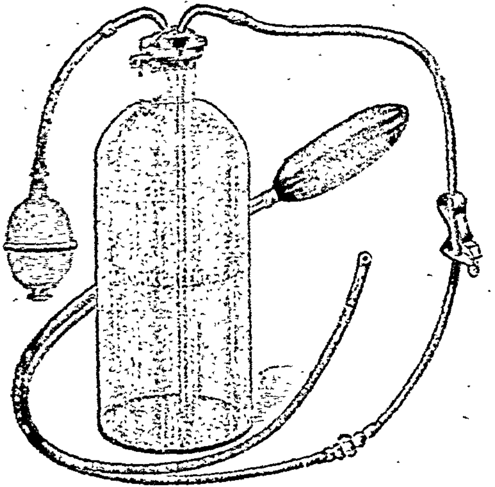
[7] For description of Turck s double tube see the Journal of American Medical Association June 22nd 1895 and American Medico-Surgical Bulletin, July 1st, 1895

[8] Journal of American Medical Association, June 11th 1896

[9] Turck Surgical Shock ibid June 19th 1897

This exercise can be repeated from twenty to thirty times in the course of a few minutes and a regular course of this exercise will frequently produce a very rapid improvement in the motor power of the organ even after other methods of treatment have failed. Another most remarkable effect of this treatment is the improvement of the local and general circulation noticed very early even by the patients. The experiments upon animals just referred to demonstrate a marked effect upon the splanchnic and ultimately upon the peripheral circulation. By passing the air through heated water (from 50° to 65° C.) we can introduce heated vapour at a controlled temperature into the stomach. The effect is most remarkable and the method has none of the disadvantages of lavage.

FIG. 6.



The intragastric resuscitator: the gastric end of the double tube covered by the dilateable soft rubber bag.

In the above are briefly indicated the most important original methods of diagnosis and therapeutics which are constantly used in our clinics and practice. More detailed descriptions of these have already been published in American periodicals,[12] but constant use naturally gives rise to modifications and improvements of instruments and methods. Some such, at present on trial, it is hoped can be reported upon in the near future, also some other points not touched upon here.

THE PRESENT POSITION OF THE QUESTION OF OPERATION IN UTERINE FIBROIDS.[1]

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ALTHOUGH the consideration of this subject appears at first sight more fitted for a society of gynæcologists than for a clinical society it is well sometimes to report progress in any special work to those whose professional duties necessitate a more general range of information. During the last few years the surgical treatment of fibroid disease of the uterus has undergone considerable change and necessarily consequent upon this the general question as to what advice shall be given to a patient suffering from this disease has assumed new aspects. Speaking generally I believe it may be said that the usual feeling of both patients and the bulk of the medical profession is against active interference in these cases and that this feeling is based upon four reasons: (1) fibroids are not fatal if left alone; (2) fibroids can be made to shrink by the use of ergot and similar drugs; (3) fibroids naturally tend to disappear at the menopause; and (4) surgical interference if it is to be effective imports extreme risk to life. The relative value of the first three depends very greatly upon the amount of force which attaches to the fourth. If this is less true than it undoubtedly was they lose much of their importance, whilst a new set of reasons for operation which previously could scarcely be maintained now become evident and gain in weight in proportion to the amount of change which can be shown.

Before the introduction of asepsis into surgery the mortality of any operation for the removal of fibroid can hardly be said to have existed, since no such operation could safely be undertaken. The course of events has been greatly like that of ovariotomy. Since any new operation must necessarily be somewhat of an experiment it was only in extremely bad cases at first that anything was tried. This meant, of course, that the tumours present were exceptionally large and the prospect of removing them was correspondingly gloomy. Subperitoneal fibroids with a pedicle were removed if single. Submucous fibroids, also pedunculated and those which had become polypoid were taken away, but interstitial fibroids, especially if multiple, were carefully left alone. If the tumour projected sufficiently towards the uterine canal, this was dilated, the capsule divided, and the tumour either enucleated at once or allowed to gradually extrude itself. If the first was possible recovery often followed, but if the latter the risks of gangrene of the tumour were very great. Tait had 8 cases of this kind with 4 deaths. The operation then most in favour—due, no doubt, to his powerful advocacy—was removal of the ovaries and tubes. In his latest book he gives a list of 262 cases with 4 deaths, exclusive of his earlier cases which had a mortality of nearly 25 per cent. The latter list, it will be seen, has a mortality of only 1·53 per cent. The mortality in Thornton's hands was just over 4 per cent. Such a mortality is certainly low enough to demonstrate the safety of the operation, but the mere mortality is not of course the only point to be considered even if in other hands it could have been maintained. Of far more importance is the effectiveness of the operation and its ultimate result. The result of this method as a rule was a decrease in the size of the tumour and cessation of flooding, but this did not follow in all cases. In some the tumour not only did not decrease, but it went on enlarging, and especially was this the case in fibro-cystic tumours. These apparently were not amenable to this operation at all. Unfortunately these were precisely the tumours which gave most trouble, caused the greatest loss of blood, and as to which even the normal menopause could not be relied upon to give relief. Moreover, in many of the worst cases, those in which surgery was most imperatively needed, it was noticed that whilst it might be possible to remove one ovary and tube it was well nigh impossible to reach the second whilst the tumour remained, and the essential of success being the total removal of all ovarian[2] and even tubal tissue up to the uterine cornu (Tait), the operator might find that after all his work was useless. Now, as such patients were worn down by loss of blood and pain beforehand, after such an operation they were but so much the worse. Johnson believes that the average failures amount to about 10 per cent. The opinion, meanwhile, was gaining ground that the ovaries like the ductless glands were essential to the general equilibrium, so that this operation was open to the double objection that whilst it could not be relied upon absolutely to get rid of the tumour and its results—loss of blood and pressure effects—it removed organs which might be perfectly healthy and which were necessary to the good and satisfactory after-condition of the patient. Naturally attention was again directed to the uterus itself. Myomectomy or removal of fibroids *per se* if single was carried out. Great difficulty was, however, sometimes found in closing the resulting cavity safely. Uterine tissue is extremely difficult to suture satisfactorily. It is not always the same, it contracts and dilates. A suture which is firm at the moment of insertion may be anything but firm after the abdominal wall has been closed. Besides, this could hardly be done when, as is so often the case, the fibroids were multiple. Just lately a proposal has been made by Alexander[3] of Liverpool to remove multiple fibroids through a single opening in the uterine wall, but it has not met with much favour. He brought forward 11 cases, and claimed that the uterine walls could be ransacked quite easily through the one incision. Although there was only one death the condition of the uterus itself after clearance in this way does not seem ideal. Moreover one could not be sure that such growths might not start afresh in a uterus predisposed to fibroid degeneration. This operation, however, may be said to be so lately brought forward that sufficient time has not elapsed for a fair judgment to be formed. Engström[4] in 1896 advocated a similar procedure. He used it in 100 cases with 5 deaths. In 37 cases there were multiple tumours (from 2 to 5) and once there were 22 tumours. In 3 cases there was return or fresh growths developed. There were 3 returned in 113 cases reported by Martin.

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[10] This has since been published in the British Medical Journal, Oct. 29th, 1898. Turck: Pneumatic Gymnastics of the Stomach.

[11] An ordinary rubber bulb the same as used for producing a spray may be used, but is not as effectual as compressed air.

[12] 1. Treatment of Chronic Glandular Gastritis: Therapeutic Gazette, June 15th, 1895. 2. Glandular Gastritis with Bacteriological Studies of the Pharyngeal Vault: New York Medical Journal, Nov. 23rd, 1895. 3. Methods of Diagnosis and Therapeutics of Diseases of the Stomach and Intestines: Journal of the American Medical Association, June 22nd, 1895; also New York Medical Journal, Feb. 22nd and March 7th, 1896. 4. The Etiology and Pathology of Gastritis upon which is based Rational Therapeutics: Chicago Clinical Review, December, 1895, and January, 1896. 5. Gastritis Glandularis Chronica: Medical News, April 4th, 1896. 6. A Bipolar Stomach Electrode: Medical News, 1896, p. 240. 7. Modern Method of Treatment of Diseases of the Intestines: New York Medical Journal, Feb. 7th and March 13th and 20th, 1897. 8. Surgical Shock: Journal of the American Medical Association, 1897, p. 1160. 9. Experiments and Technique of a New Hydrotherapeutic Method: Louisville Journal of Surgery, July, 1893. 10. The Intra-gastric Reagent Capsule: Journal of the American Medical Association, April 23rd, 1893.

[1] A paper read before the Clinical Society of Manchester on Jan. 17th, 1899.

But attempts were now made to remove the uterus itself with its contained growths, leaving the ovaries and tubes behind, if healthy. The methods adopted followed almost precisely the same route as previously ovariotomy had taken. The uterus was delivered through the abdominal opening; its base was encircled by a wire serrenœud, and the main bulk cut away—the period of the clamp. Of course the pedicle became adherent to the abdominal wall. There was the same, only more prolonged and dangerous, period of separation of the stump, the same dragging afterwards upon the pelvic and abdominal tissues and, in addition, the very great risk of inclusion of some portion of the bladder so intimately adherent to the uterus, or the ureters, in the serrenœud. Secondary hæmorrhage also was not unknown and in cases where the fibroid had developed into and between the layers of the broad ligament, the removal of the parts above the bladder was practically useless, since the really effective producer of pain and pressure was left behind. Then the bladder was stripped down and the broad ligaments were opened leaving only the uterine cervix to act as a stump. Hegar's name is associated with this method. Knowsley Thornton may be taken as the great advocate of this extra-peritoneal fixation of the stump. But as operators realised more and more the safety of intra-peritoneal work it was inevitable that attempts would be made to dispose of this stump, as the stump of an ovarian tumour had been previously, so as to be entirely free within the cavity of the abdomen. There was, however, one obstacle to this and it appeared almost insurmountable. The cervical canal must be divided and in it there might be septic bacteria. The pioneers of this operation covered it over with peritoneum, removing a wedge-shaped portion so as to permit the formation of an anterior and posterior lip which were sewn together; in this way the peritoneal sac was closed and it was hoped that sufficient drainage would take place through the cervix into the vagina; Schroeder was the originator of this method. Several surgeons who practised this method had, however, every now and then to dilate up the cervix and let out pus which had accumulated beneath the peritoneum. Byford[5] after removal of the supra-cervical portion of the uterus made an opening in Douglas's pouch and forcibly dragged the upper extremity of the stump through into the vagina, leaving a curved stump of which both orifices pointed downwards.

The mucous lining of the cervix was also destroyed in various ways—by strong carbolic acid, by the actual cautery, or by the electric cautery—but it must be said that none of these methods were entirely satisfactory. The present methods aim at the entire removal of the uterus, cervix and all, and appears to give by far the best results. They are two—panhysterectomy by the abdominal route and vaginal hysterectomy; a combination of both is often found useful. Although these operations are comparatively new already some statistics are available and they are decidedly encouraging. Thus Kelly[6] reports a series of 100 cases, with a mortality of 2 per cent.; Bantock[7] 7 cases, with 1 death, due not to the operation but to chronic ulceration of the colon. Donald[8] in 1886 had 4 cases, with 1 death. Christopher Martin at the same date had 10 cases, with no deaths. Doyen[9] had 35 cases with 1 death; during 1897[10] Martin had 12 cases, with 3 deaths, by abdominal panhysterectomy.

In the execution of both these operations there are several variations in the manner in which they are carried out, the complete description of which would unduly prolong this paper. Péan, Doyen, Segond, and Landau have each introduced some alterations in vaginal hysterectomy, and Martin, Zweifel, Baer, Sänger, Le Bec, and Martin in abdominal, but the ultimate intention in all is to remove entirely the affected uterus, leaving tubes and ovaries unless they are irremediably diseased. The advantages of such an operation are many. By the total removal of the fibroid uterus you get rid once and for all of the exhausting hæmorrhage, the sense of weight and discomfort, the pressure upon the bladder and rectum, the pressure upon the sacral and lumbar nerves, the obstruction to free circulation in the lower extremities; you leave behind nothing which can either start fresh growth or act as a nidus for suppuration, and you do leave behind the all-important ovarian tissue. The cardinal objection is, of course, that you take away also the possibility of pregnancy. Of course this objection applies to all methods by means of which the supra-vaginal portion of the uterus is removed. It remains to be seen whether this objection is worth as much as *a priori* it appears to be. Süsserott[11] says that out of 147 cases of pregnancy complicated with fibroids the forceps were applied in 20, out of which number 8 mothers and 13 children died. In 21 cases in which the placenta required removal by hand 13 women died. Collectively the mortality of the mothers was 53 per cent.; of the children 66 per cent. Tarnier out of 6 cases delivered by forceps lost 4 mothers and 4 children. In 6 cases with version 3 mothers and 3 children died. Five pregnant women with fibroids died before delivery. Sänger collected 43 cases where Cæsarean section became necessary. Out of these 36 mothers died—i.e., a mortality of 83·7 per cent. Pozzi collected 28 cases of Cæsarean section for fibroids; of these 24 mothers died, or over 86 per cent. Johnston says that during pregnancy or labour one-third of the mothers and more than one-half of the children die, so that where the tumour cannot be removed celibacy, he says, is to be recommended. Pregnancy, therefore, instead of being a condition for the sake of which a patient is to be advised to suffer anything, is really one of the complications most to be dreaded; and some writers, as Baldy, even advise operation more in young persons than in those whose chance of child-bearing is reaching its limit.

It is easy to understand why great danger arises in pregnancy. Abortion is frequent in these cases and the fibroid uterus less easily and perfectly contracts. Thus there is great danger of retention of clot or portions of decidua with the consequent septic poisoning. Lefour collected 39 cases of abortion due to fibroids, with 14 deaths. Should the pregnancy reach the normal limit the dangers of parturition are great. If the tumour has developed in the broad ligament it lies an insurmountable obstacle in the route through which the child should pass. Cæsarean section may be required. Sometimes the tumour can be passed by the aid of forceps. In such cases the tumour is apt to be so much bruised that there is great risk of its becoming gangrenous. In some cases the placenta is inserted at the region of the fibroid and furious hæmorrhage will occur during and after its separation, since the indispensable contraction cannot be brought about. If the rate of mortality in these cases be compared with that after pan-hysterectomy a fair idea of the relative risks of operation and no operation will be obtained.

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[2] Thornton: Brit. Med Jour, Feb. 11th, 1893.

[3] Journal of the British Gynæcological Society, 1898.

[4] Monatsschrift für Geburtshülfe und Gynäkologie, Band 5, Heft 4, 1896.

[5] American Journal of Obstetrics, August, 1896.

[6] Kelly's Gynæcological Operations, vol. ii., p. 373.

[7] British Gynæcological Journal, August, 1898.

[8] Brit. Med. Jour., Oct. 4th, 1896.

[9] Gould's Year-book, 1898, p. 576.

[10] British Gynæcological Journal, May, 1898.

[11] Jessett: British Gynæcological Journal, August, 1898.

But the mortality having been shown to be small the relative importance of the reasons for hysterectomy becomes much greater. I purposely omit the consideration of electricity in these cases. It only confuses the question, since, although personally I have had one or two fairly good results, the method has been practically abandoned. In 1892 Thornton[12] declared that any man who advised operation in cases which required vaginal examination for its discovery was either a very ignorant or a very wicked person. Kessler[13] in 1896 said it was questionable whether it is not advisable to operate in every instance. He pointed out that in many cases the tumour first begins to grow after the menopause; that persistent hæmorrhage results in fatty degeneration of the heart muscle—the fibroid tumour heart; that gangrene or sloughing of the tumour may occur; now and then they become telangiectatic and cystic, more rarely torsion occurs; then that a fibroid easily degenerates into a sarcoma; and finally, that local compression of neighbouring organs occurs. The risks of concurrent pregnancy have been already emphasised.

Whilst the operation for removal was associated with a high mortality it followed as a matter of course that the alternative miseries attendant upon the presence of fibroid disease were ignored or depreciated as much as possible. With the decrease of danger these may be estimated at something more like their actual value and importance. In the early stage there are aching, weariness, and pain which is constant, varied by pain which is very acute just before each period. The patient must give up her business or profession whilst the period lasts, for she must spend that time on a couch or in bed. Worst of all she is for ever dribbling urine. Think what that means. The pressure on the bladder, or if the growth is posterior, the dragging upon the vesical neck is persistent. Whenever the bladder contains a little urine there is an insistent desire to evacuate it. If that desire cannot be complied with the urine escapes. During the day there is a penetrating urinous odour about the patient which, fight against it or disguise it as she will, forces her to become isolated. She cannot spend a few hours at a concert, at church, or at the theatre; she cannot take part in any society, owing to this wretched infirmity, which constantly reminds her of her merely animal nature and debars her from the natural pleasures of her more intellectual tendencies. As time goes on and the enlarged uterus rises into the abdomen this will improve, but only if the fibroid is interstitial or submucous. If, on the contrary, it should grow into the broad ligament this symptom is often intensified and increased. Suppose the former happens the urinary trouble is replaced by the exaggerated loss of blood. In any case this happens. The periods are not only more copious; they are prolonged. Naturally two or three days only in duration, they last now four, five, six, eight, or ten days, checking a little one day to gush more profusely the next. Nor is this all. Originally recurring once in four weeks, they now return every three weeks or even every fortnight, whilst the period of freedom, during which a little strength might be regained, becomes shorter and shorter. One of my patients who was possessed with the old ideas about fibroids and who believed that operation meant death passed six months without having more than one day free at a time from hæmorrhage.

Hæmorrhage which does not kill loses after a time its terrors for the medical attendant; but consider what persistent hæmorrhage lasting for months and years means to the patient. She is like a business man who attempts to carry on his business with little or no balance at his bankers—every slight call upon his resources brings him to the verge of bankruptcy and keeps him in a perfect fever in order to maintain his hand-to-mouth existence. So with a fibroid patient. As long as she can be absolutely quiet, as long as no sudden or even moderate calls are made upon her strength, so long she may live a vegetative life. But what a life! Anything out of the ordinary routine and she pants for breath, faints, collapses. Even the confined, mewed-up life of a confirmed invalid becomes at last almost too much for her. Her white lips, pearly conjunctivæ, puffy eyelids, sunken eyes, and fleshless limbs show unmistakeably that she has but just enough of blood to suffice for the most elemental needs. Her muscles waste, partly for want of exercise partly for want of nourishment; every movement, every effort is a struggle, whilst her nervous system becomes irritable, emotional, its action irregular and altogether inefficient. If she is a woman with but little will she yields in the unequal struggle, becomes captious and peevish, and a misery to herself and to everyone around her. If she is of better fibre she undergoes a daily martyrdom to which the short, sharp agony of the mediæval saints was but a trifle. And it is when after months and years of patient and almost hopeless endurance she has reached this stage that surgery is at last invoked. Can it be wondered at that sometimes surgery is, under such circumstances, followed by fatal results? Is it not more to be wondered at that in so many cases success is achieved and the patient is at last freed from the daily drain and succeeds in recovering health and strength? What different prospects would surgery have if it were allowed to act whilst yet the patient's strength were unsapped, whilst yet there was a reasonable amount of blood in her body? Since all fibroids, however large, must at one time be small, and since the risks of removal increase *part passu* with the size of the tumour and the amount of blood lost, it would seem that now we have arrived at this: so long as fibroid tumours give rise to no marked symptoms and show no tendency to enlarge they may be ignored; if, however, they are definitely increasing in size it is wiser to remove the entire uterus, leaving all the ovarian tissue possible, whilst the tumour is yet fairly small. In this way the risks of the operation will be minimised as far as possible, the patient will be in the best condition to ensure success, and will be saved most of the miserable but inevitable results of this disease.

Manchester.

ON THE TREATMENT OF VARIOUS INFLAMMATORY PROCESSES BY THE EXTERNAL APPLICATION OF ALCOHOL.

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THIS treatment came under my notice in 1896 through a paper written by Dr. Salzwedel in the *Berliner Klinische Wochenschrift* who warmly recommends it for the treatment of whitlow, lymphangitis, phlegmon, incipient abscess, &c. He states that in many cases if the treatment is commenced soon enough the inflammatory process is arrested and disappears within forty-eight hours and that in all the cases in which suppuration is unavoidable the suppurative process is promoted and the forming abscess is more localised and thus the time of healing is shortened. Dr. Salzwedel claims that the alcohol vapours enter the skin and act as direct disinfectants on infected tissue. Other medical men in Germany have since tested these bandages and also recommend them. I have used them for the last two years in all suitable cases with favourable results.

The application must be made with care if we wish to be sure of the result. The inflamed part is washed with soap and water—if necessary with ether—dried, covered with some gauze (to prevent the cotton-wool from adhering to the skin), and then a layer of from ½ in. to ¾ in. of cotton-wool is bound round the part by means of a gauze bandage. The whole is saturated with a strong solution of alcohol. In Germany and in Switzerland we use 96 per cent. alcohol—the spiritus alcoholisatus to avoid the expense of absolute alcohol; the spiritus rectificatus (86 per cent.) of the British Pharmacopœia will serve the same purpose. Over this bandage, well saturated with the rectified spirit of wine, but not so *that it drips*, a cover of gutta-percha paper is fastened by means of a gauze bandage so that it overlaps the bandage by one inch on every side; this gutta-percha paper must have small holes cut in it at intervals of about an inch. These holes are easily made by folding the paper from six- to ten-fold and snipping off the edges. The whole process takes less time to execute than to describe. This bandage is removed every twelve or twenty-four hours, according to circumstances—the severity of the case, the pain, the fever, the rapidity of evaporation, &c. The same gutta-percha paper can be used two or three times if cut large enough, as the alcohol makes it shrink. It is very essential that the bandage should reach an inch or two beyond the inflamed part and that the gutta-percha paper should itself reach beyond the bandage by an inch, also that holes should be cut in the gutta-percha paper to ensure evaporation. These bandages are often too circumscribed if the inflammation covers a great area; if limited to the limbs the attendants or relatives of the patient can renew them alternately with the medical attendant. The expense of these appliances is inconsiderable and they can therefore be used in the out-patient department of hospitals.

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[12] Brit. Med. Jour., Feb. 11th, 1893.
[13] Petersburger Medicinische Wochenschrift, No. 19, 1896.

The bandages have in most cases afforded me entire satisfaction so that I think it will be instructive if I publish some notes in full, taking only one example in each category. I have seen failure only in a few cases, when either the application was not made correctly or for particular reasons was not continued long enough.

Whitlow.—The usual treatment with either cold, tepid, or hot applications of watery solutions of some antiseptic or other, such as boric acid, acetate of lead, or alum solutions, or even solutions of mercury perchloride, does not give as satisfactory results as these alcohol applications. It is extremely doubtful whether the antiseptics are absorbed by the skin at all, thus we can only rely on the effect of the watery application. Commencing whitlows subside under alcohol and disappear. The pain is alleviated rapidly and definitely in the majority of cases. In progressive cases the inflammation confines itself to quite a limited area, the secondary inflammatory symptoms—œdema and lymphangitis—vanish, suppuration is localised and at the same time promoted, the deep-seated abscess tends to burst outwardly instead of progressing to the interior, and incision at the right moment with a couple of days' after-treatment usually effects a cure.

CASE 1.—The patient, aged twenty-five years, pricked herself with a rusty nail on April 19th, 1898. There were pain and swelling of the corresponding finger stretching up the dorsum of the hand and the forearm. An alcohol bandage was applied on the evening of the 20th and the patient passed a good night and had hardly any pain. On the 21st the wound which was on the fourth finger showed some yellow secretion. The third and fourth fingers of the right hand were greatly swollen and red and the dorsum of the hand was still swollen. Alcohol bandages were applied in the morning and at night. The patient passed a good night on the 22nd. Swelling was much less and there was no pain. Bandages saturated with 1 in 2000 *corrosive sublimate* were ordered. The patient returned in the evening in great pain and with increased redness and swelling and wanted an alcohol bandage for the night which was accordingly applied. She had a good night. On the 23rd there were more swelling and redness, but the wound was healing. Under daily application of alcohol bandages the swelling disappeared altogether in three days. A small abscess formed round the wound after incision, but it healed under the application of ointments.

Lymphangitis.—Generally the inflammatory process is arrested within forty-eight hours. Two years ago I had occasion to treat myself for lymphangitis of the left hand due to a tiny abscess under a finger-nail. Sublimate baths having failed to give any relief or to prevent the increase of the inflammation I applied an alcohol bandage with the best results. The pain disappeared in half an hour and the swelling and redness of the hand in thirty-six hours and then the abscess under the finger-nail was cured by removal of half the nail and local antiseptic treatment.

CASE 2.—The patient pricked himself on the cheek with a rusty pen on Nov. 23rd, 1896. When the patient was seen on the 24th there was a slight wound on the cheek an inch from the angle of the mouth with infiltration of the size of a hazel-nut round it. Boric acid and sublimate compresses were used. Most intense pain caused a sleepless night. On the 25th the patient was in bed and his temperature ranged from 102° to 103° F. Alcohol bandages were applied in the morning and at night. He slept almost all night, the temperature being normal on the 26th. Red lines of lymphangitis extending from the wound to the ear were noticed. There were swelling of two glands in front of the ear and slight neuralgic pain in the corresponding ear. The infiltration was then of the size of a walnut, hard and non-fluctuating. The alcohol bandages were continued morning and night. In the evening the patient felt quite well and was up on the 27th. He was dismissed on the 30th, the swelling having subsided. The latter ultimately disappeared under the use of an iodine ointment.

CASE 3.—This case illustrates the prompt action of the application of alcohol in cases of insect bite. The patient was twenty-five years of age. He was bitten on the back of the hand by a cattle-fly on August 2nd, 1898. On the 3rd there were two small white dots on the back of the right hand. There were heat, redness, and considerable swelling of the hand and forearm and lymphangitic lines up to the axilla. There were several swollen glands in the axilla. The temperature was 99·5° F. Intense pain of the whole arm was experienced. Alcohol bandages were applied up to the elbow. In the evening the swelling had increased but the pain was less. On the 4th the hand and arm were swollen to double their normal size and the glands in the axilla were very sensitive. The patient had had a fairly good night. The temperature was normal. Alcohol bandages were applied morning and night. On the 5th the swelling and the pain rapidly disappeared so that the patient was dismissed with his arm in a sling. On the next day the sling was dispensed with.

Localised furunculosis.—This condition is amenable to the treatment. I bear especially in mind the case of an anæmic boy, aged ten years, who resisted antiseptic treatment for six weeks, but immediately improved and was definitely cured by nightly applications of alcohol.

Sycosis can be similarly treated without inconvenience to the patient and a medical friend of mine, a dermatologist, is well contented with this treatment.

CASE 4.—This case is one of acute glandular inflammation after measles. A boy, aged four years, had morbilli in September, 1897. He was never quite well, but pale and languid. Sudden fever came on on Oct. 18th, the temperature reaching 102° F. On the 19th the patient seemed very ill, with furred tongue, great restlessness, and whining voice. The temperature was still 102°. The submaxillary glands and the glands in front of, and behind, the sterno-cleido mastoid muscles were much enlarged and were painful to touch, especially on the left side. There was no throat or ear trouble. No source of infection other than the previous attack of measles could be traced. Wet bandages to be changed every two hours were ordered and 3 gr. of phenacetin at night. On the 20th the temperature was 101° to 102°, but there was less pain. The patient had perspired freely. Short baths of 92° twice daily were ordered. On the 21st the temperature ranged from 102° to 103° and the pain had increased greatly, the patient not having had a moment's freedom from it all night. The swelling of the glands had greatly increased. Phenacetin failed to relieve the pain. There were general tremor and apathy and the patient could scarcely sit up in bed. In the evening the pain was still intense and only two hours' sleep had been obtained out of forty-eight hours. An alcohol bandage was tried. On the 22nd the patient who had slept well notwithstanding a temperature of from 102° to 103° took an interest in his surroundings and wished to get up. The temperature was 102°. The glands were decreasing in size. Alcohol bandages were applied. On the 23rd there was no fever. The glands were smaller and no longer painful. Under alcohol bandages twice a day the glands further decreased in size and the patient was dismissed on Oct. 27th with the injunction to use "iodine vasogen" morning and night. After a week the glands were not to be felt.

I may mention that this treatment, successful as it is in acute glandular swellings, signally fails in cases of chronic, probably tuberculous, swelling of the glands of the neck.

I think the preceding selection of cases will decide many a practitioner to give the alcohol bandages a trial.

Zürich.

TEN CASES OF VAGINAL HYSTERECTOMY.

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THE operation of vaginal extirpation of the uterus and appendages has been very extensively practised during the last few years, and the results attained have been very satisfactory. Originally introduced as a radical treatment for cancer its scope has been extended to other diseased conditions, such as uterine fibroids if below a certain size, chronic inflammation of the uterus with advanced bilateral disease of the appendages, pelvic suppuration, and, lastly, intractable cases of prolapse. The improvements in technique have been followed by great reduction in mortality. The best results have been obtained in extirpation for fibroids and inflammatory conditions, some operators having published series of 40 and 60 cases without a death. In cancer the mortality has been somewhat higher, especially if the disease has advanced beyond the early stages. It has also been clearly shown that for malignant disease extirpation of the uterus can only rank as a palliative procedure since recurrence sooner or later is almost invariable. There can be little question, however, of the great relief and prolongation of life which is generally afforded by the operation. I have performed vaginal extirpation in 10 cases—in 5 cases for cancer of the uterus (cervix 4, body 1), in 3 for multiple fibroids, and in 2 for chronic inflammatory affections combined in the latter with removal of the appendages. In this series one death has occurred due to intestinal obstruction nine days after operation; all the other cases made rapid recoveries. The notes are briefly as follows.

CASE 1. *Adeno-carcinoma of the body of the uterus.*—The patient, whose age was fifty-one years, was first seen in June, 1896, on account of uterine hæmorrhage which had commenced six months before. She had had one child twenty-five years ago and the menopause came on in her thirty-ninth year. Examination revealed a senile vagina and cervix. The uterus was bulky and retroflexed. No adhesions could be discovered. The sound passed 3 in. and the cavity felt large. The uterus was explored under anæsthesia and small hard masses of growth were removed. Microscopically these showed typical adeno-carcinoma and immediate extirpation was advised. The patient would not, however, at first consent, but later, in October, 1896, she was admitted into a home and extirpation of the uterus was performed. The ovaries and tubes were atrophied and were not removed. The patient rapidly recovered and left the home in three weeks. The uterus on section showed extensive diffuse growth, infiltrating the muscular wall; the peritoneum was healthy. The patient remained quite free from recurrence for twelve months. She then began to feel intense pain in the back and down the left leg and examination revealed a recurrence of growth at the side of the pelvis. A little later she developed enlargement of the lumbar glands and ascites. She then commenced with symptoms of lung trouble, hæmoptysis and cough, the result of extensive secondary growth. She gradually sank and died eighteen months after operation.

CASE 2. *Carcinoma of the cervix.*—The patient whose age was fifty-three years and who had had two children was sent to me by Dr. Arthur Chapman in March, 1898. For two months she had noticed bleeding from the vagina and a month later she commenced to have pains over the right hip. The menopause occurred at forty-three years of age. The vagina was senile and narrow, the cervix was hard, and a mass of growth could be felt in the canal and invading the external os. The fundus was small and the cervix moved freely. Per rectum, however, induration of the right sacro-uterine fold could be plainly made out. The appendages were small. On April 30th vaginal extirpation was performed in a nursing home. She rapidly recovered and returned to her own home in eighteen days. The uterus showed advanced glandular carcinoma commencing in the cervical canal and reaching as high as the internal os. The fundus was healthy. It is in this form that the growth frequently becomes very extensive before causing symptoms and in this instance although operation was undertaken two months after the earliest hæmorrhage lymphatic invasion of the base of the right broad ligament had already taken place. The patient remained quite well for six months but in October last she felt recurrence of pain in the right hip and a small mass of secondary growth can now be felt in the glands at the brim of the pelvis.

CASE 3. *Carcinoma of the cervix.*—The patient, fifty-nine years of age, was seen by me in July, 1898, with Dr. Godson of Cheadle. A month previously whilst exerting herself she had a profuse hæmorrhage. Up to this time she had felt perfectly well. The hæmorrhage became very slight after a few days. She had had three children the youngest of whom was twenty-five years of age and the menopause had occurred at the age of fifty-one years. She looked in excellent health. The vagina was very narrow; the cervix showed an area of ulceration around the external os and felt nodular and hard. The uterus was small and moveable. Per rectum, however, slight thickening of the base of the left broad ligament could be detected. A few days later I removed the uterus at the patient's own home. She made a rapid recovery and at the present time remains in perfect health. The uterus on section showed adeno-carcinoma commencing in the glands of the cervix and being more advanced in the upper parts of the cervical canal. The body was small and atrophied.

CASE 4. *Carcinoma of the cervix.*—The patient, aged forty years, consulted Dr. Percy Cooper in August, 1898, on account of uterine hæmorrhage which had been present more or less constantly for ten months and for the last month she had suffered from very severe pains over the right side of the sacrum and hip and shooting down the right leg. A few days later I saw her. She had had 6 children, the youngest being ten years of age. Menstruation had been regular but at each period the bleeding had been excessive. The cervix was much enlarged by a mass of growth involving both lips and extending posteriorly on to the vaginal roof. The base of the right broad ligament was thickened and the right sacro-uterine fold could be plainly felt. The uterus did not pull down freely with volsella. The body was moveable. It was evident that the growth had extended so much that although removal was possible recurrence must take place before long. The patient, however, suffered intense pain, requiring morphia, and she was otherwise in such good general health that I thought removal would give temporary relief, although operation could not be urged. She decided to have the operation carried out. On Sept. 18th, assisted by Dr. Cooper, I removed the uterus. This was somewhat difficult on account of its large size and of the perimetric thickening on the right side. After taking away the uterus I found a mass of growth lying on the sacral plexus. This I removed carefully, exposing the trunks of the nerves. The patient made a speedy recovery, all pain having ceased. At the present time (January, 1899) she is very well, although occasionally she feels slight pains in the right hip. Recurrence, however, must be anticipated before long. Still the relief given has been very marked.

CASE 5. *Carcinoma of the cervix.*—The patient, aged thirty-eight years, had been ailing for three months from attacks of vomiting and general weakness. She had had four children. She stated that she was fairly well until May, 1898. She then noticed an offensive discharge with hæmorrhage and for a month the bleeding had been very severe. She was anæmic and had lost 2 st. in weight. Examination showed an extensive epitheliomatous growth of the cervix which bled very freely. The uterus was not obviously enlarged and there was no perimetric thickening. Careful examination of the other organs of the body revealed no evidence of organic disease. Vaginal extirpation was performed in the usual way on August 5th. There was little shock and for two days the patient progressed favourably. She then commenced to be sick and this lasted for four days. The temperature remained normal and the bowels acted freely. On the sixth day the sickness became fæcal and no flatus was passed. The pulse now rose to 120. It was evident that intestinal obstruction had supervened, possibly from adhesion of bowel to the stump of the broad ligament. The abdomen was opened. I found that the end of the broad ligament beyond the upper ligature on the right side was necrotic and a coil of ileum was adhering to it. There were no signs of general peritonitis. The coil was separated, but no relief was given and the patient died on the ninth day after removal of the uterus. No post-mortem examination was obtained. In this case I cut the upper ligatures short and drained as usual with gauze. Owing probably to the debilitated condition of the patient the usual adhesions occluding the peritoneal cavity did not form, and I believe the upper end of the broad ligament then became infected from the vagina. It is in these cases wiser to leave all the ligatures long and to draw the stumps of the broad ligaments well down into the vagina.

Case 6. *Multiple fibroids; prolapse; hypertrophy of the cervix.*—The patient, aged forty-five years, unmarried, was sent to me by the late Dr. Hugh Moss in February, 1897. She had suffered severely from sacralgia for six years and for some months had been unable to go about. The pain was not relieved by rest. She complained also that the womb came outside the vagina.' Menstruation had been profuse for the preceding two years, lasting seven days. On examination the cervix was found to lie outside the vulva, due to hypertrophy of the vaginal portion. The uterus was very bulky and a firm, rounded mass filled up the pelvis reaching to the promontory of the sacrum. The sound passed forward 4½ in. and a mass was also felt in front of the uterus. The diagnosis of multiple fibroids was made. Some months later, as she became quite incapacitated, I advised total removal of the uterus. The patient was admitted to a nursing home in February, 1897, and a few days later the uterus was completely removed per vaginam. The operation was tedious owing to the bulk of the tumours which formed a mass of the size of a fœtal head. The appendages were healthy and were not removed. Since that time the patient has been well and able to carry on a business. The uterus showed great hypertrophy of the vaginal portion of the cervix which measured 2½ in. in length. A large fibroid occupied the posterior wall of the uterus and similar tumours were present on the anterior wall and the fundus uteri.

Case 7. *Multiple fibroids; cystic ovary; pelvic peritonitis.*—The patient, aged thirty-six years, was unmarried. She had suffered from constant pelvic pain for ten years. This was felt chiefly in the back and iliac regions and was much aggravated during the menstrual periods. Menstruation began at the age of sixteen years. It was of the twenty-eight-day type, lasting from three to four days. Pain was not a marked feature during the first years, but it had gradually become more severe. She was quite unable to make any exertion and was confined to a couch. No history of infection could be obtained, but she had been under treatment for many years without receiving any marked relief. The vagina was small, the cervix was high up, and the uterus was antiflexed. The fundus was pushed to the right side by a firm mass in the left broad ligament. The right ovary was enlarged, prolapsed, and adherent. There were also numerous peritoneal adhesions. As all previous measures had failed I advised total extirpation of the uterus. This was performed in December, 1897. The mass felt on the left side was an intra-ligamentous fibroid of the size of a large orange. The right ovary showed chronic inflammation and was cystic; it was therefore removed. The left ovary and tube were small and apparently healthy; I therefore, with a view of avoiding nervous sequelæ, did not take them away. Convalescence was rapid and uninterrupted The patient left the home at the end of three weeks feeling quite well. Since then she has at times complained of back-ache and right iliac pain, much worse on walking, although nothing abnormal can be felt and the scar is not painful. There is, I believe, in this case a nervous element, and it illustrates the fact that even after a radical operation pelvic pain may persist in women of a neuralgic type.

Case 8. *Uterine fibroids; pregnancy terminated by abortion twice.*—The patient, aged twenty-nine years, was sent to me by my friend, Dr. E. J. Carruthers. She had been married for seven years and had two children living, aged five years and four years respectively. Since 1896 she had been twice pregnant and on each occasion it had been necessary to induce abortion on account of a fibroid tumour in the left broad ligament. This rapidly enlarged during each gestation, causing intense pain and obstructing the lower segment of the uterus. In July, 1897, when I saw her she was again three months pregnant. She had been in bed for six weeks with severe pain in the left side of the abdomen. On examination an irregular mass was felt reaching up to the umbilicus. The body of the uterus could be made out lying to the right and above the tumour. Per vaginam the fibroid mass filled up the left side of the pelvis, displacing the cervix to the right. It was evident that a living child could not be obtained *per vias naturales* and I did not feel justified in advising the patient to wait until full term and then submit to Cæsarean section or to Po operation. I therefore recommended removal of the uterus. The tumour and pregnant uterus were too bulky to permit of removal per vaginam, so I introduced a tent and the next day evacuated the contents of the uterus. A week later as the tumour had much diminished in size I was able to remove the uterus per vaginam. The broad ligaments were thick and vascular requiring numerous ligatures. Dense peritoneal adhesions were found over the posterior wall of the uterus and over the tumour, thus accounting for the severe pain from which the patient suffered so much. The ovaries and tubes were normal and consequently were not removed. The patient made a rapid recovery and returned home in three weeks. Since that time she has been in excellent health. The tumour was an interstitial fibroid growing out into the left broad ligament and involving the whole side of the body of the uterus, the uterine cavity being displaced upwards and to the right. A fibroid tumour also occupied the fundus uteri and a similar tumour was present in the cervix. This case is of special interest since large fibroids at the age of twenty-nine years are very unusual.

Case 9. *Chronic metritis; pelvic peritonitis; old pelvic abscess*—The patient, aged forty-one years, who had had three children, the last of whom was born eight years ago, was sent to me in May, 1896. She complained of constant pelvic pain with severe dysmenorrhœa. The symptoms dated from her last confinement. She was then in bed for three months, her illness resulting in profuse discharge of pus from the bowel. This at the time gave great relief, but she had been a chronic invalid ever since, unable to undertake any active exertion and suffering from repeated attacks of pelvic peritonitis. Examination revealed laceration of the perineum, chronic retroflexion of the uterus, and lacerations and erosions of the cervix. The fundus was firmly adherent in the floor of Douglas's space. To the right of the uterus was a dense mass of adhesions in which under anæsthesia an enlarged ovary and tube could be recognised adherent to the anterior wall of the rectum. Since palliative treatment by rest, tampons, &c., had been persevered in for years without obvious improvement I advised complete extirpation of the uterus and appendages. The patient was admitted into a nursing home in July, 1896, and vaginal extirpation of the uterus was performed. The adhesions in Douglas's space and the anterior wall of the rectum necessitated great care. After removal of the uterus the right appendages were enucleated and taken away. The left ovary and tube were small and as they did not cause pain I left them. The patient progressed very favourably and returned home in three weeks feeling quite well. Two months later she again complained of pain in the regions of the left appendages and I found that there was now an obvious left tubo-ovarian swelling. A few days later I opened up the scar and removed the left ovary and tube. There were no adhesions but a hydro-salpinx had developed in the tube and the ovary showed chronic atrophic inflammation. The patient went home a fortnight later and since then has been very well, although the artificial menopause induced some nervous disturbance and latterly she has suffered from chronic rheumatism.

Case 10. *Chronic metritis; double pyosalpinx.*—The patient, unmarried, aged twenty-four years, was first seen by me in September, 1896, in consultation with Dr. F. W. Warrington. At this time she was suffering from a severe attack of pelvic peritonitis of gonorrhœal origin. She remained in bed for six months, but at the end of that time there was little real improvement. Every attempt at getting up caused a fresh attack of inflammation. In February, 1897, I again saw the patient. Her general condition was excellent. The examination showed that the uterus was very bulky, tender, and acutely anteflexed. The cervix showed abundant purulent discharge. At each side of the pelvis large adherent tubo-ovarian swellings were felt. On the right side a mass was firmly adherent in the floor of Douglas's pouch. In cases of this kind abdominal section has generally been performed, the appendages being removed and the uterus remaining *in situ*. The after-results of these cases have, however, been often disappointing. The diseased uterus remains behind and the pelvic pain with inflammatory thickening of the stumps of the appendages is present In this instance, as both appendages were extensively diseased, I decided that the safer operation and the one more likely to give a permanent cure was the removal of the uterus and appendages per vaginam. On Feb. 18th I performed the operation in the usual way. On opening Douglas's pouch about 6 oz. of dark blood and clots escaped, right ovary and tube were nucleated from dense adhesions. The tube contained 2 oz. of pus; there was also an abscess in the ovary. The left appendages were similarly removed. On this side, however, the adhesions to the sigmoid flexure necessitated great care. The pelvis was now flushed out with sterilised water and the vaginal vault was sutured in the usual way. The patient had little shock and made a rapid recovery. She is now in perfect health and in this instance there have been no nervous sequelæ attributable to the artificially induced menopause.

In these cases the ligature has always been used to control the broad ligaments and I have no experience of the use of clamps for this purpose. It is worthy of note that Doyen and others who have advocated clamp forceps have again reverted to the use of the ligature. There is no doubt that a slight saving of time is effected by using forceps, but it is only exceptionally that this becomes a factor of importance. The bladder having been widely separated the utero-vesical pouch is opened and then an opening is made in the pouch of Douglas. The broad ligaments are now ligated in *sections from* below up. In passing the ligatures I have always used the notched needle as recommended by Professor Sinclair. The ends of all the ligatures are left long. After removal of the uterus the condition of the appendages must be carefully investigated. If they are diseased it is easy to draw them down into the vagina and to form a pedicle which is tied close to the brim of the pelvis. In inflammatory cases great care is required in separating adhesions to omentum and bowel, but after the uterus is taken away these can be readily brought into view and dealt with. If the appendages are high up and a ligament cannot safely be passed a pair of pressure forceps will control the ovarian vessels at the outer border of the broad ligament and these may be removed in twenty-four hours. The cavity of the pelvis is now flushed out with *saline solution and by traction on* the ligatures the whole of the broad ligament can be brought into view and any bleeding point secured. Sometimes, especially in cases of cancer, the cut surfaces of the vaginal wall bleed freely and may require a ligature. The central portion of the gap in the vaginal roof together with the peritoneal edges are now united by continuous or interrupted silk sutures, any prolapse of bowel meanwhile being avoided by the introduction of a small sponge. In this way the raw area on the posterior wall of the bladder is covered over and a smooth peritoneal surface is presented towards the abdominal cavity, thus diminishing any tendency to prolapse or adhesion of bowel *or* omentum. A strip of sterilised, moist gauze is now passed along the ligatures on each side to provide efficient drainage *and the ends of the* threads are cut off short just within the vagina. The vagina is now packed with gauze. This dressing I often leave for four or five days if all goes well. In cancer cases, however, it usually becomes offensive and must be removed earlier. Gauze should be introduced in the vagina for a week. After this time douches may safely be given. The threads become loose and separate from the fourteenth to the twenty-first day. This, however, is often associated with slight pyrexia beginning about the tenth day and the discharge becomes offensive—due to infection of the stump of broad ligament and the silk from the vagina. To avoid this drawback some operators cut off each ligature short after the ends are tied and then close the peritoneal cavity. The silk is then usually absorbed and causes no further trouble. In the one fatal case I cut off the ligatures short and the stump still became infected from the vagina, resulting in adhesion of a coil of ileum. In cases of cancer where the tissue may be infected it is impossible to ensure complete asepsis, and I believe that it is best in these cases to leave the ends of the threads long and to draw the stump of the broad ligament well down into the vagina, passing a strip of gauze above it to provide efficient drainage. If healthy reaction occurs the peritoneal cavity is occluded within thirty-six hours and all danger of infection or adhesion of a coil of bowel is at an end. In removal for fibroids or displacements the ligatures may safely be cut short and then care should be *taken to completely* close the peritoneal cavity, leaving only a small opening at each side for the introduction of a gauze drain. If the ligatures are cut short it is specially important to suture the vaginal vault, since local infection of the stump of the broad ligament from the vagina is very likely to occur, leading to troublesome convalescence and in some cases to obstruction of the bowels. It has not been shown, however, that there is any special disadvantage in leaving the end of the threads long, although local infection almost invariably occurs. The threads always come away, and since no foreign material is left behind a sound scar inevitably results.

Manchester.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF PROTRUSION OF THE SMALL INTESTINE CAUSED BY LACERATION OF THE ABDOMINAL WALL; RECOVERY.

BY J. R. JENKINS, M.D. ABERD.

ON Sept. 22nd, 1898, I was called, with Mr. William D. Jones and Mr. T. G. Jenkins, to see a patient, aged twenty-two years, who had met with a bicycle accident. It appeared that he was "coasting" down a slight incline and at a turn in the road collided with a pony-cart driven in the opposite direction. The right or off shaft of the cart struck the cyclist on his right thigh and gliding upwards over the groin penetrated the abdominal wall tearing this open to the extent of about 7 in. He attempted to get up *from* the ground but at once discovered that he had a protrusion of bowel. He felt faint and was very sick, but did not lose consciousness. He was picked up by the occupants of another carriage coming up in a few minutes and conveyed to his destination, a mile off, and there put to bed.

We found the patient excited, just recovering *from the* effects of the shock he had *experienced.* He begged for chloroform which we very shortly administered to him and then proceeded to examine the seat of injury. We found a protrusion of the small intestines to the number of six or seven coils and these forced out to an extent of 5 in. It seemed that the shaft had entered at the inner and upper point of the right inguinal region, *tearing* the structures upwards to the extent of 3 in. and downwards nearly to the symphysis pubis, fully 4 in. We attempted to return the bowels but that we found to be no easy matter owing to the much distension of the bowels and a tight grip by the wound and it was not until I made a deep incision through the median edge of the wound that we were able to commence the return of the protruded bowel. Owing to the overlapping form of the wound internally it proved quite impossible to return and replace the bowels without such incision, but with the altered form of the tear we had no great difficulty. There was no scratch or injury to the intestines so that after due antiseptic treatment they were replaced coil by coil. The wound was brought together by a dozen wire *sutures* and *iodoform* was freely applied. A support by a sufficient pad of Gamgee wool and a firm bandage over all completed the operation.

The patient soon recovered *from* the effects of the chloroform which he had taken fully for upwards of an hour. He was given 1 gr. of opium and this was continued every four hours for the first two days and at longer *intervals* up to the fifth day. The sutures were removed one by one, the first on the fourth day; the temperature had then risen to 101° F., the highest recorded. The last suture was *removed* on Oct. 4th (the twelfth day). With the exception of the instance above recorded the temperature was normal throughout. Retention of urine gave trouble for *seven days.* There was no action of the bowels for five days when an enema was administered with the desired effect. No natural action of the bowels took place until Oct. 13th (the twenty-first day). The patient was able to be dressed and to get up *on* the 10th (the eighteenth day). He went downstairs on the 12th and walked out on the 13th (the twenty-first day). He returned to London on Oct. 20th and to Oxford on the 27th, *five weeks from* the date of the accident. By a recent letter he informs me that he is quite well and suffers no inconvenience.

Ruthin.

THREE CASES OF CONGENITAL DEFICIENCY OF BOTH PATELLÆ IN RELATED INDIVIDUALS.

By MAURICE G. PEARSON, M.B., B.Sc. LOND., F.R.C.S. ENG.,
ASSISTANT RAILWAY MEDICAL OFFICER, DE AAR, CAPE COLONY.

THE three cases here related, all in coloured children, illustrate different degrees of this deformity and are interesting as showing the extent to which growth is an element in its cure. The first two are the only children of one father, while the third is the child of his brother and has several brothers and sisters whose patellæ are natural.

CASE 1.—In this patient, a girl aged five months, there is a very noticeable transverse groove in the position of each patella and the finger can be pressed in deeply between the condyles of the femur; the patella itself can be felt as a nodule about $\frac{1}{4}$ in. in diameter; the quadriceps tendon and ligamentum patellæ are narrow cord-like bands. Although of course the child is as yet unable to walk she can extend her knee quite well. The movements and limits of movements are natural.

CASE 2.—A sister of the above, aged four years, has now patellæ which are only slightly smaller than the average. The interesting point about her is the fact that her mother says her knees were as an infant exactly like her sister's, that she was very long in learning to walk, and that even now she cannot walk for long and is "shaky on her legs."

CASE 3.—A cousin of the others, aged seven months. This girl also has very small patellæ but not so small as Case 1. She has also the transverse groove less well marked.

Unfortunately I am not within reach of any skiagraph apparatus. I should be glad to hear from others who have met with these cases whether there is always such a tendency to cure as there has been in Case 2 mentioned above.

Cape Colony.

A NOTE ON A CASE OF SWALLOWING FALSE TEETH.

By J. S. SHARMAN, L.R.C.P. LOND., M.R.C.S. ENG.

EARLY on a Sunday morning a lady swallowed three false teeth attached to a gold plate. At one end of the plate was a sharp hook to fit round the next tooth and at the other two sharp points, the measurement longitudinally was $1\frac{6}{16}$ in. and transversely $\frac{4}{16}$ in. The patient was awakened by a sense of suffocation. She pressed her throat and she stated that she could feel "them go down." There was practically no discomfort and the teeth were passed on the following Friday morning. On the Thursday the Roentgen rays were used but the teeth could not be detected, although from the back one could plainly see through the body, as was proved by placing a small coin over the region of the abdomen. The operator came to the conclusion that the teeth must be hidden by one of the crests of the ilia, as was no doubt the case.

It is worthy of note that experiments on the cadaver have been of little use to test the capability of the stretching of the sphincter of the pylorus. In these experiments a five-franc piece split the sphincter, whereas in the living subject spoons and forks have passed without discomfort. The ileo-cæcal valve and vermiform appendix give more trouble in children than in adults. In most of the text-books very little or nothing is stated besides the various operations as to the treatment of these cases. Rest in the recumbent position and possibly on the right side is desirable, and for diet boiled white of egg, boiled cream, potatoes, rice, and porridge, and if there is any discomfort opium should be administered. In some cases laxatives have been used with success, but this must greatly depend upon the form of the foreign body. In one case where false teeth were swallowed it is stated that oakum, figs, and raisins were given and after a week the body was expelled with the oakum and figs attached to the irregularities of the plate and teeth.

Norwood, S.E.

A Mirror
OF
HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

NORTH-EASTERN HOSPITAL FOR CHILDREN.

THREE CASES OF DIPHTHERITIC CONJUNCTIVITIS.

(Under the care of Mr. SYDNEY STEPHENSON.)

IT is now generally recognised that the true criterion of the diphtheritic nature of a membranous conjunctivitis is the presence of the Klebs-Löffler bacillus, but statistics are wanting as to the frequency of the occurrence of this micro-organism in conjunctivitis. The value of the antitoxin in diphtheritic conjunctivitis is admitted by nearly all observers[1] and Coppez and Funk[2] consider that the fact is beyond dispute. The failures which have occurred seem to have been in cases in which the bacteriological diagnosis had not been made. The benefit resulting from the hypodermic administration of the antitoxin should not be permitted to cause any relaxation in the local attempts to make the conjunctiva aseptic, for it is far better to prevent the formation and absorption of toxins than to neutralise them after they have entered the body. The presence also in the membrane of other virulent micro-organisms is an important argument in favour of the local application of antiseptics. The use of quinine lotions, strongly advocated by Mr. Tweedy,[3] has not received such general support as we believe it to deserve. For the notes of the cases we are indebted to Mr. C. G. Burton, resident medical officer.

CASE 1.—A girl, aged eighteen months, was taken to the ophthalmic out-patient department of the North-Eastern Hospital for Children on April 20th, 1898. Ten days previously both eyes were noticed to be red and the lids began to swell and discharge matter. She also lost her appetite, became paler, and was feverish at night. On examination there was found to be photophobia in both eyes, the eyelids were swollen, and there was a whitish discharge which was tenacious and stripped off like a membrane. A diagnosis of acute ophthalmia was made. A lotion of perchloride of mercury (1 in 5000) was ordered to be applied six times a day. Three cultivations were taken; one was sent to the Clinical Research Association, one was taken away by Mr. Stephenson, and one was placed in the incubator at the hospital. The Association reported on April 22nd that the growth consisted of Klebs-Löffler bacilli and staphylococci; Mr. Stephenson found Klebs-Löffler bacilli which Mr. Burton also found in his cultivation. The patient was admitted into an isolation ward on April 22nd. On admission she looked very ill and pale and wanted to lie down. She showed marked signs of rickets. The mouth, tonsils, and pharynx were normal in appearance. No physical signs were observed in the chest; there was no cough or stridor. There was photophobia in both eyes; both lids of each eye were swollen and stuck together. The surface of the conjunctiva was red and swollen, there being a distinct membrane which was easily detachable and which left a raw surface. The ocular conjunctiva was slightly congested but the cornea was quite clear. The cervical glands were enlarged as well as the submaxillary and preauricular glands on both sides. The skin of the face round the eyes and the nose was excoriated. There was a slight watery discharge from both nostrils and also an offensive discharge from the left ear; there was no discharge from the vulva. Antitoxin freshly obtained from the Royal College of Surgeons (7 c.c. containing 2000 units) was at once injected into the flank. The eyes were washed every two hours with distilled water. No drugs were given. On the 23rd the temperature remained below 100° F. The urine was acid, clear, and contained no albumin. The knee-jerks were present. A cultivation was taken of the discharge from the nose. On the 24th the eyelids were less swollen and the discharge was less, but fresh membrane still formed during the night. On the 25th no growth had taken place from the cultivation of the discharge from the nose. There was less photophobia but fresh membrane still formed. On the 26th 1000 units of antitoxin were injected. The temperature remained normal and the urine was free from albumin. On the 28th an erythematous rash was visible on the abdomen especially round the injection wound. The patient's general condition had much improved and she now sat up and talked. There was less photophobia. No membrane formed on the 28th, but there was still a discharge of mucus. On May 1st the child had further improved. The antitoxin rash had disappeared. The inflammation of the eyelids was still present and was now thought to be due to other than the Klebs-Löffler bacilli; the local treatment was altered, nitrate of silver (10 grains to 1 oz.) being painted on the conjunctiva once a day and the eyes washed with a lotion of perchloride of mercury (1 in 5000) every three hours. On the 7th the eyes were free from any discharge, but the lids were thickened and the patient had a small amount of photophobia. She was kept in the hospital in order to improve her general condition and was given medicine for the first time. On June 15th she was discharged quite well. The eyes were quite normal and her general condition was much improved, but she was still a weakly infant. The knee-jerks were present all the time that she was in the hospital and *no signs of paralysis* were observed.

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[1] Morax: Annales d' [illegible], p. 238.
[2] Archives d'Ophtha' [illegible]
[3] THE LANCET, Jan. 24th, 1880.

CASE 2.—A boy, aged three years, was taken for the first time to the ophthalmic department of the North-Eastern Hospital for Children on April 6th, 1898. The left upper eyelid was swollen and red and overhung the lower lid. There was a thin muco-purulent discharge with glutinous material stretching between the lids when the latter were opened; some easily detachable membrane was on the palpebral conjunctiva. Cultivations were taken but the case was at once diagnosed as one of diphtheritic conjunctivitis and the patient was immediately admitted into an isolation ward. It was stated that the left eye began to be affected five days previously but that otherwise the patient had been in very good health. There was some infiltration on the outer side of the cornea. Small impetiginous spots were present on the forehead (? diphtheritic). The cervical glands on both sides of the neck were enlarged and the left preauricular glands could be felt. The patient seemed to be quite well. The temperature was 99° F. and the pulse was good. The throat, nose, and larynx were normal. No signs in the chest were noted. The urine was acid, clear, and contained no albumin. The left eye was washed with a solution of perchloride of mercury (1 in 3000) every four hours and an aseptic pad was kept over the eye. Antitoxin from the Royal College of Surgeons (7 c.c. in 2000 units) was injected into the right flank. The eruption of the face was treated with a dilute ointment of ammoniated mercury. On the 8th the patient ate and slept well; the temperature remained normal. The eyelid was less swollen and there was less discharge, but still a distinct membrane could be stripped off and the membrane gradually formed again in a few hours. The urine was found to contain a trace of albumin. On the 12th the patient's general condition was good. There was a slight discharge and a slight membrane still formed. The impetigo of the face was cured. On the 15th no membrane formed, but there was still a sticky discharge. The lids were not swollen and the cornea was quite clear. The urine was normal. On the 22nd the patient was sent home. His eyes looked normal; a very slight discharge was noticed on his arising in the morning. The urine was normal and the knee-jerks were present. On the 27th he was attending as an out-patient; he had had the eyelids painted with a solution of nitrate of silver (10 grains to 1 oz.) every day. Some blepharitis ulcerosa of the left upper lid was present but otherwise he was in very good health. On May 24th the patient was quite free from discharge, the knee-jerks were present, and no symptoms of paralysis had developed.

CASE 3.—A girl, aged eight months, attended the ophthalmic department of the North-Eastern Hospital for Children for the first time on July 19th, 1898. There was a history of swelling and redness of the left eye noticed seven days previously, photophobia and discharge occurring three days later. She had been feverish and seemed very ill for two days before attending at the hospital. From previous experience Mr. Burton at once admitted the child to the isolation ward and took three cultivations of the discharge. On admission the child was very pale and seemed to be very ill. The temperature was 99·6° F. and the pulse was feeble and rapid. The left eyelids were swollen and red; a thick glutinous discharge on the palpebral conjunctiva was seen on opening the lids which were stuck together. The cervical glands on both sides were enlarged and the left preauricular gland could be felt. The throat, mouth, and nose were normal. There was no discharge from the ears and nothing was seen on the vulva. 7 c.c. of antitoxin (2000 units) were injected into the right flank. The left eye was washed with distilled water only, no drugs being given, and the eye was carefully bandaged with an aseptic pad. On the 20th the child still seemed to be very ill. The temperature ranged between 99° and 101°. The lids of the left eye were swollen and red and some muco-pus was discharged from the palpebral fissure. The lids could be easily everted and the palpebral conjunctiva was concealed by a thick greyish membrane leaving a smooth surface which did not bleed. The urine was acid, clear, and contained a small amount of albumin. Klebs-Löffler bacilli were reported to be present in the cultivation which had been sent to the Clinical Research Association; they were also found by Mr. Stephenson on his agar cultivation; and in the cultivation grown at the hospital were found Klebs-Löffler bacilli and staphylococcus citreus. On the 22nd membrane still formed on both lids but was easily stripped off, leaving the conjunctiva below smooth and red but not bleeding. The urine contained a trace of albumin. The knee-jerks were not obtained. The temperature was now normal and the child's general condition had much improved as she took her food well and slept most of the day. On the 23rd membrane still formed. She could open her eyes well. The knee-jerks were both obtained and were probably present on the 22nd. On the 24th no membrane formed. The palpebral conjunctiva was thick and red; there was very little discharge. The cornea was clear. The left preauricular gland was still enlarged. The urine was normal. On August 3rd the patient was sent home. The discharge had quite stopped, the eyelids looked normal, and the child was quite well. The urine was normal and the knee-jerks were present. On the 31st the eyes had remained quite well and no signs of paralysis had developed.

Remarks by Mr. BURTON.—1. *The frequency of the disease.* During the past year about 200 cases of conjunctivitis have been treated in the ophthalmic department of the North-Eastern Hospital for Children; 6 of these have been found to be chiefly due to the presence of Klebs-Löffler bacilli—i.e., 3 per cent. This percentage is probably too high; but if every case of conjunctivitis had cultivations taken it would probably be found that the specific organism is present in at least 1 per cent. 2. *The danger of non-recognition of the disease.* There is no doubt that the discharge from the eyes of these cases is capable of setting up severe laryngeal diphtheria and as a rule no care at all is taken by hospital patients. The mother frequently uses her own handkerchief to wipe the discharge from the eyes of the little patient and at other times the noses of the other little ones of the family. These poor children always sleep two and sometimes three in a bed and use a common towel even at school. 3. *The difficulty of diagnosis.* The only pathognomonic sign is the presence of the diphtheria bacilli. The formation of membrane occurs frequently in cases of conjunctivitis when there is no suspicion of the case being diphtheritic. The underlying conjunctiva is red, raw, and rough, although this is not always so in diphtheritic and is sometimes so in non-diphtheritic conjunctivitis. The enlargement of the preauricular glands, though present in these cases, may not be due to the diphtheria bacilli. Diphtheritic paralysis has occurred after simple diphtheritic conjunctivitis and would make the diagnosis conclusive. 4. *Type of the disease.* Although these three cases appear to belong rather to the "croupous" than the diphtheritic variety of conjunctivitis, nevertheless as the specific organism was always present they fully deserve the name of "diphtheritic." 6. *Treatment.* Although in these cases antitoxin was the only treatment adopted in each case other bacilli were present besides the Klebs-Löffler, so some local treatment should be added, such as washing the lids with a solution of perchloride of mercury. If the discharge persists cauterisation with nitrate of silver should be tried. The greatest care should be taken that the discharge is not conveyed to the non-affected eye or to the mouth or vulva. 6. Prophylactic treatment. If by chance any diphtheritic membrane should be coughed by a patient into the eye of a medical man or of a nurse antitoxin should be given and the lids should be washed frequently with a solution of mercury and painted with a solution of nitrate of silver (10 grains to 1 oz.). For permission to record the notes of the above cases I am indebted to Mr. Stephenson.

VICTORIA GENERAL HOSPITAL, HALIFAX, NOVA SCOTIA.

A CASE OF BRADYCARDIA OCCURRING IN A YOUNG MAN; NECROPSY.

(Under the care of Dr. C. DICKIE MURRAY.)

DR. MURRAY'S very striking case of bradycardia is well worthy of being recorded. The complete absence of any effect from the administration of drugs which usually accelerate the action of the heart is very noticeable. The slowness of the pulse was not so marked as has been described, for F. V. Boulioubach of Moscow is quoted in the *Universal Medical Journal* of Philadelphia (September, 1895) as having observed one case in which 14 and on some occasions only 8 heart-beats were counted in a minute; though in such a case it is not improbable that heart-beats were missed. In Dr. Murray's case we are not told what was the condition of the peripheral vessels

A seaman, aged twenty-one years, was admitted to the Victoria General Hospital, Halifax, Nova Scotia, on Nov. 9th, 1897, being one of the crew of a ship which was wrecked off that port on Nov. 7th. He complained of pain in the præcordial region, dizziness, dyspnœa, and occasional convulsive seizures. His father was living and well, his mother died from cancer, and he had two sisters who were well. His family history was otherwise unimportant. He had been at sea for the previous five years and had been constantly exposed to rough weather; he said that he was scarcely ever dry. He had used alcohol and tobacco freely. There was no history of venereal disease. He had suffered from an attack of scarlet fever in childhood and about five years before admission to the hospital he was confined to bed for a fortnight by an attack of pain and soreness in the knee-joints and ankle-joints; the pain and soreness disappeared under treatment and were probably rheumatic. He dated his present condition back to four years ago when one day after running he was seized with a sudden pain over the heart, followed immediately by severe dyspnœa which continued for some days so that he was unable to work. The pain over the heart was followed by a sensation as of something bursting. His condition improved and he was able to return to work, but he had been troubled ever since by more or less pain and dyspnœa which were increased by exertion and were sometimes worse after eating. Since the first attack he had had several convulsive seizures which occurred suddenly with little or no warning. During these attacks he was quite unconscious and was told that he kicked and screamed for some minutes. He felt somewhat weak for two or three days following such a seizure. For the past year the pain and dyspnœa had been getting worse, so that he had not been able to do much hard work.

On examination the patient was found to be a well-nourished and very muscular man about 5ft. 4in. in height and weighing 130lb.; he was bright and intelligent, his cheeks were ruddy, and he had no characteristic morbid appearances. All the systems except the circulatory were normal. As regards the circulatory system there was pain in the præcordia with dyspnœa and dizziness. A faint feeling was present which did not so much seem to depend upon exertion as upon his assuming the upright position. The dyspnœa often prevented him from sleeping at night. Sometimes the præcordial pain was increased by eating and was accompanied by a feeling of distension in the epigastrium. The cardiac impulse was hardly perceptible to the eye, but on palpation it was found to be slightly displaced downward and to the left; it was not strong but was felt to be longer or not so abrupt as the normal impulse. This impulse occurred about 26 or 28 times a minute. On percussion the cardiac dulness was found to be enlarged downwards and to

On auscultation a loud rough murmur was heard with the cardiac systole. This murmur was audible in the mitral area and slightly in the axilla, but was not transmitted to the back. It was also heard in the tricuspid area and over the whole of the heart, but loudest in the aortic and pulmonary areas, where another murmur was also heard immediately following the systole but not quite so loud as the systolic bruit. The murmurs could be heard along the carotid and subclavian vessels. The radial pulse was fairly strong and regular but somewhat delayed, occurring from 26 to 28 times a minute. There was no cyanosis or œdema or any abnormal condition of the superficial vessels.

Various drugs were administered from time to time with the view of accelerating the pulse-rate. Among those tried were alcohol which was given in moderate quantities during the whole of his stay in the hospital, atropin which was given at the suggestion of some members of the branch of the British Medical Association before whom he was exhibited, nitro-glycerine, strychnine, and digitalis, but none of these had the slightest appreciable effect upon the pulse-rate. One afternoon under the influence of laughter and excitement his pulse registered 42 for a short time. The cardiac murmurs were verified by numerous medical men and he was exhibited before, and examined by, members of Dr. Murray's class of clinical medicine. On the afternoon of Jan. 1st, 1898, the patient, in company with two convalescent patients, left the hospital grounds and went into the town. They returned to the hospital late at night intoxicated and the patient was very sick and vomited much during the night. The next morning they were discharged from the hospital and the patient went to a boarding-house. On the following morning (Jan. 3rd) he called at Dr. Murray's residence and asked him to prescribe for him as he was feeling very miserable. Dr. Murray suggested that the discipline of the hospital having been vindicated he would give the patient an order for readmission, of which he gladly availed himself. During the next twenty-four hours he was very quiet, but beyond being given a small quantity of alcohol four or five times a day he was under no medical treatment. On the 4th at 12 o'clock, on returning to the ward from the dining-room where he had eaten very little, he suddenly fell forward and in spite of attempts to resuscitate him he expired in about five minutes.

Necropsy.—A post-mortem examination was made by Dr. W. H. Hattie, pathologist to the hospital, and the various organs were carefully examined. No abnormal condition was found in connexion with any organ but the heart and the lungs. The pleura of the left lung showed adhesions extending from the second rib to the base of the lung; these were separable by the hand. The right lung also showed adhesions, but these were not so extensive and were more easily separated. The heart weighed 14 oz.; all the valves were in perfect condition and were free from vegetations. The left side of the heart was hypertrophied and the muscle was hard and resistant; the right side was soft and flabby. The heart muscle was very friable and on being examined microscopically showed evidence of having undergone fatty change of an infiltrative character with possibly some true degeneration. The brain which was hardened in fluid and examined showed no morbid condition.

Remarks by DR. MURRAY.—The case of bradycardia described above presents some features which make it desirable that it should find permanent record in the too scant literature referring to this symptom of disease. The ordinary text-books make but brief reference to this condition and I have found it difficult to get access to any very complete sketch of the clinical history of such cases or of the various pathological lesions usually accompanying them. The case presents several features of more than usual interest—namely: (1) the youth of the patient and his apparently well-nourished and robust condition; (2) the extreme slowness of the pulse which was unmodified by any drug tried; (3) the presence clinically of well-marked and diffuse murmurs which were not accounted for by any valvular conditions; and (4) the discovery post mortem of a degenerated heart muscle. The causes of bradycardia have been classified as follows: (*a*) cardiac alterations—fatty changes, stenosis of the coronary arteries, and presence of other degenerations and tumours of the heart; (*b*) irritative lesions of the central nervous system and vagus and injuries to the spinal cord in the cervical region either the result of trauma or the growth of tumours; (*c*) paralysis of the accelerator nerves and disease of the cervical ganglia; and (*d*) bulbar ischæmia and venous hyperæmia of the medulla by sclerosis of arteries or by compression of the superior vena cava. This case was probably due to the first of these causes, the presence of fatty changes in the heart muscle being the only discoverable lesion. I regret that a careful examination of the cervical ganglia and of the nerve-supply of the heart was not made. The presence of occasional convulsive seizures reminds one that in the case of Napoleon I. Corvisart, his physician, states that the Emperor's pulse was usually 40 and he was subject to occasional epileptiform seizures. A case has been recorded[1] in which the pulse was 40, the apex beat was imperceptible, and a loud systolic murmur was present. On a necropsy being made the heart was found to be hypertrophied and dilated and its walls flabby, but the valves were not affected. The slowing of the blood current must in some way produce the sounds heard.

LEICESTER INFIRMARY.

A CASE OF ENTERIC FEVER WITH SEVERE PERIOSTEAL LESIONS; INJECTIONS OF ANTI-STREPTOCOCCIC SERUM; RAPID RECOVERY.

(Under the care of Dr. ASTLEY V. CLARKE.)

PERIOSTITIS is a well-recognised complication of typhoid fever and two varieties seem to occur; in one the local lesion is caused by the typhoid bacillus, but in the other it is the result of a secondary streptococcic infection. The improvement which followed the injection of anti-streptococcic serum was very striking and if not due to a coincidence it is in favour of the view that the periostitis was the result of the presence of the streptococcus. The value of a bacteriological examination in all such cases can hardly be exaggerated. For the notes of this case we are indebted to Mr. R. H. Fagge, house physician.

A boy, aged thirteen years, was admitted to the Leicester Infirmary on Oct. 2nd, 1898. He had been unwell for eleven days, complaining of headache, pains in the back, and restlessness; there had been no diarrhœa. On admission the abdomen was distended and typhoid spots were well marked; the spleen could not be felt. The tongue was furred and sordes were on the lips. The urine contained a trace of albumin and gave Ehrlich's reaction well. His pulse was 117 per minute and soft and his temperature was 103·4°F. On the 5th a symmetrical papular rash appeared all over the chest and abdomen. The boy grew steadily worse till the 12th, but improved from then until the 16th when pain and swelling were first noticed in the first phalanx of the right ring finger. As the swelling increased an incision was made into it on the 18th, but no pus was evacuated. The patient grew more apathetic and the temperature began again to rise. Further incisions were made on the 22nd and the 26th. On Nov. 4th as the swelling and inflammation of the finger were more marked amputation was performed and it was found that the whole of the periosteum had become separated from the bone, but the metacarpophalangeal joint had not been affected. The patient was still more apathetic and did not seem to understand anything which was said to him. No improvement had occurred by the 10th, for both the mental condition and the local condition were worse. A long incision was made over the metacarpal bone. On the 15th he was still unconscious with much delirium and as the temperature was oscillating between 99° and 102·6° 10 c.c. of anti-streptococcic serum (obtained from the British (now Jenner) Institute of Preventive Medicine) were injected into the left loin. Some local uneasiness followed the injection and the temperature rose to 102°, but shortly afterwards the temperature fell as by crisis to normal, the delirium vanished, and consciousness returned within twenty-four hours. Other injections of 5 c.c. each were given on the 16th, 17th, and 19th, and by the last date the patient was well advanced in convalescence. The hand improved rapidly after the first injection, the swelling and inflammation abating rapidly. On the 22nd raised "urticarial" rings developed around the sites of the injections and by the next day this rash had spread all over the body; it was accompanied by a slight rise of temperature and caused much irritation. From this time the patient rapidly put on flesh and was discharged from the infirmary on Dec. 12th well except for a small granulating surface on the hand. Unfortunately no cultures were taken from the local lesion of the hand when it was first open.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Gonococcus Joint Diseases in Infants secondary to Purulent Ophthalmia.

A MEETING of this society was held on Jan. 24th, the President, Mr. BRYANT, being in the chair.

Mr. CLEMENT LUCAS read a paper on Gonococcus Joint Disease in Infants secondary to Purulent Ophthalmia, with an account of 23 cases. He first drew attention to this disease affecting the joints of infants suffering from purulent ophthalmia in the *British Medical Journal* of Feb. 28th, 1885, more fully on July 11th, and again, with the addition of a third case, on Oct. 10th, 1885, in the same journal. Mr. R. G. Fendick published a case in support of the truth of the observation on Oct. 31st, 1885; but from that time no case seemed to have been published in this country and the authors of text-books were for the most part silent upon the subject. Abroad, however, this hitherto unrecognised joint affection of infants had attracted more attention, and Debierre in France, Zatvornitski in Russia, and Widmark in Germany, had each published a case before the end of the year 1885 in support of Mr. Lucas's contention that the joint inflammation was secondary to, and dependent upon, the ophthalmia. Mr. Lucas had now collected 23 cases, upon which he founded his present communication. The joint disease presented itself in two forms: (1) as a very acute arthritis accompanied with much swelling, tenderness, and redness, strongly suggesting a tendency to suppuration; and (2) as a subacute synovitis, giving rise to a good deal of effusion and pain on movement, but to little or no surface redness. Of the 23 cases collected [illegible] were cases of ophthalmia neonatorum inoculated dur[illegible] labour and 5 were cases of secondary inoculation in other children, the eldest being seven years of age. The ophthalmia generally appeared on the third day after birth. The joint disease showed itself more commonly towards the end of the second or during the third week of the ophthalmia. The knees were the joints most frequently affected, especially the left; any joints might be attacked, but the left wrist seemed more liable than the right; and Mr. Lucas offered as an explanation of the left knee and left wrist being specially selected the fact that they were more exposed to injury in the position in which an infant was usually carried by the nurse. Complete resolution might be anticipated and the inflammation usually ran a course of from three to five weeks. Bacteriological examination had shown that the gonococcus of Neisser was the cause of the ophthalmia and of the joint disease. Where suppuration took place there might possibly be a double infection. In two recorded cases this happened, streptococcus being present in one and staphylococcus in another associated with gonococcus. The affection differed from syphilitic joint trouble in appearing at an early period of life and in its more rapid course.

Mr. N. C. MACNAMARA said that he thought Mr. Lucas had fairly proved the association of joint disease with ophthalmia. He thought that secondary joint affections were due to products of inflammation rather than to organisms, as in several cases of gonorrhœal rheumatism he had failed to find the gonococcus in the synovial fluid. If the gonococcus were the cause he would expect suppuration to occur there as in the urethra. Personal predisposition was certainly an important factor in susceptibility to poisons. Mr. Macnamara thought that other forms of joint disease were traceable to suppuration, believing, for example, that some cases of chronic rheumatic arthritis were due to suppuration round decayed teeth, and the late Dr. Todd held that in some cases it was traceable to vaginal discharge. He thought that ordinary acute rheumatism was due to the absorption of morbid products developed in some way in the alimentary canal. He thought that knowledge of these morbid products would enable sound methods of treatment to be arrived at.

Mr. HIGGENS said that the condition must be very rare as although he had seen a very large number of cases of gonorrhœal ophthalmia in infants he did not recall one in which there was joint affection. He was not convinced that the presence of the gonococcus in the pus signified that the case was one of gonorrhœa.

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[1] Brit. Med. Jour., Sept. 10th, 1891.

Mr. R. BARWELL said that he had described the association of joint disease with gonorrhœal urethritis in 1861. Rheumatism after scarlet fever was the result of absorption of some poison and he saw no reason for hesitating to admit that joint disease might be an occasional concomitant of suppuration of the conjunctiva. It was rare probably because of the free exit of pus and in the case of gonorrhœa in the adult the freer escape of pus in the female was the probable explanation of the rarity of arthritis as a complication of gonorrhœa in women. Other forms of surface suppuration such as otorrhœa might give rise to arthritis, the arthritis subsiding as the otorrhœa yielded to treatment.

Dr. PYE-SMITH said that the paper helped to settle the nature of gonorrhœal synovitis. The nervous hypothesis was quite abandoned and the pyæmic theory was also disproved as suppuration did not occur unless there was a mixed infection. The difference in type between this form of arthritis in infants and in adults was very instructive particularly in the rapid development and the rapid recovery.

Mr. PEARCE GOULD agreed that the cases described were the same as gonorrhœal synovitis in the adult. He thought that the gonococcus had been repeatedly demonstrated in the fluid from the joint and he did not agree with Mr. Barwell that some morbid product was absorbed, believing that the entrance of this powerful organism produced alike the primary and secondary trouble. Probably the infrequence of joint trouble as a complication of gonorrhœal inflammation in infants was largely due to the fact that their joints were little exposed to injury or strain. He thought the view of Mr. Lucas that the secondary complication subsided in a parallel course with the primary affection was not borne out by general experience or by the cases quoted by Mr. Lucas, in one of which the joint disease did not appear until the ophthalmia had subsided.

Mr. A. E. BARKER did not hold it proved that all cases of joint disease associated with ophthalmia were due to the gonococcus alone but that there was a *mixed infection*, the pyogenic organisms preponderating in severe cases. He thought that the term "pyæmia" might be fairly applied to many cases and among those he would also place the cases of joint disease secondary to otorrhœa spoken of by Mr. Barwell.

Mr. HUTCHINSON asked as to the exact number of cases in which the presence of the gonococcus had been demonstrated. The question of diagnosis from syphilitic arthritis did not come up because in the infant any syphilitic joint disease was due to extension from the periosteum and was of a totally distinct character, but there was a form of syphilitic arthritis which came on later which was nearly associated with interstitial keratitis. The knees were chiefly affected and suppuration was rare. He held out as an hypothesis that in cases of secondary inflammation there was some product of metabolism formed in one tissue and that this gave rise to inflammation in a tissue of similar organisation. Gonorrhœal rheumatism was on this hypothesis more common in males because there was inflammation not only of the urethra but of the fibrous tissues of the penis and it was a poison formed there which gave rise to inflammation of fibrous tissues in the joints. He thought, also, that gonorrhœal rheumatism was predisposed to by a gouty inheritance He would still class gonorrhœal arthritis as a form of rheumatism.

Mr. LUCAS, in reply, said that the gonococcus had been found in a sufficient number of cases to prove the nature of the joint affection. Injury was undoubtedly a predisposing factor, but he was unable to trace a rheumatic diathesis in any of his cases. He thought that gonorrhœal rheumatism was not so very rare in women, but was often overlooked. He insisted that it was extremely important to subdue the ophthalmia at the outset.

MEDICAL SOCIETY OF LONDON.

Appendicitis and Diffuse Peritonitis.—Ureteral Calculus.

A MEETING of this society was held on Jan. 23rd, Mr. J. H. MORGAN, Vice-President, being in the chair.

Mr. CUTHBERT WALLACE read the notes of three cases of Appendicitis and Diffuse Peritonitis. In all three cases there was a local collection of pus which had spread and infected the general peritoneal cavity. In two instances the peritonitis was general and in the third it was confined to the viscera behind the great omentum. The treatment adopted was the same in all. The abdomen was opened and the appendix removed, and then the intestines were turned out on to the surface of the abdomen and cleansed with sterile water while the abdominal cavity was flushed out. Mr. Wallace submitted that this was the most rapid and effectual method of dealing with such cases and of effectually cleansing the abdominal cavity, and he pointed out that it was almost impossible to cleanse the peritoneum while the intestines were *in situ* because the irrigating fluid did not flow out in a steady stream but simply washed the infective material about from one part of the abdomen to another. The incision through the right rectus was best, as the same incision could be used to remove the appendix and wash out the abdomen. All three cases recovered without any complications and were discharged in little over a month.—Mr. CLUTTON congratulated Mr. Wallace on his successful series of cases which he doubted if any other surgeon had been fortunate enough to obtain. He remembered the time some years ago when extraventation was practised, but he did not recall any successful results. But the methods were different. Then the intestines were received in a warm towel, the abdominal cavity was filled not with non-irritating saline fluid but with some antiseptic, and this was removed by turning the patient almost on his face—a proceeding which gave rise to much shock. He asked for more particulars from Mr. Wallace as to the details of his operative procedures. Mr. Clutton observed that in Mr. Wallace's cases the bowels were relieved on the third day. He thought that this had much to do with the good result. There was no doubt that septic absorption took place from the internal surface of the bowel and that evacuation of the contents of the bowel was most desirable. Magnesium sulphate was often talked of but as a rule it was rejected by the stomach. It had been suggested that the salts should be injected into the upper part of the small intestine by means of a hypodermic syringe and if this proved to be feasible it would increase the chances of the patients.—Mr. STANLEY BOYD asked what length of incision Mr. Wallace employed for getting the intestines out. He himself had been deterred from trying extraventation because of the difficulty in returning the bowels and the danger of leakage if they were pricked. Probably incision and drainage would be the best way of dealing with distended gut now. He quite agreed as to the removal of the intestinal contents and a quickly acting purge which would act in a small dose when given hypodermically was much wanted. Absolute cleansing of the peritoneum was not possible and recovery would depend partly on the power of the patient to deal with what was left.—Mr. BRUCE CLARKE said that in a case where there was difficulty in returning the bowel he had incised it, fixing it to the abdominal wall, and closing the opening afterwards. If the patient lived recovery was rapid. He approved of the method of extraventation and of the position of the incision through the rectus, as there was less liability to subsequent hernia.—Mr. W. H. BATTLE said that the symptoms presented by these cases varied and mentioned a patient whom he had recently seen in whom the symptoms at first did not appear to indicate to those who saw him first that the condition was grave. On examination respiration was entirely costal, his pulse was weak, and his face was slightly bluish. An incision was made on the right side of the abdomen and a large quantity of stinking pus evacuated.—Mr. MORGAN agreed with what had been said as to the advantages of extraventation, although the return of the bowel presented great difficulties. Although the abdominal cavity could not be completely cleansed most of the septic material could be removed and in the case of perforated gastric ulcer if the extravasated matter was small in amount and removed early recovery often followed. He thought that the immobility of the abdominal wall was of as great significance as the condition of the pulse and the facial expression.—Mr. WALLACE, in reply, said that abdominal movements might be present when the abdomen was full of pus as in a case on which he operated for ruptured duodenal ulcer. All went well for four days and the movements of the abdomen during respiration were perfect. The patient suddenly collapsed and after death the abdomen was found to be full of pus. As to difficulty in returning the bowel, in his cases there was no distension and there was no difficulty, but in a more recent case he had to resort to puncture and incision. As to the details of procedure he commenced the abdominal incision level with the anterior spine and continued it up for about 6 in. The house surgeon held [illegible] over to one side while the [illegible] they cleansed. The intestine was irrigated all the time with hot sterilised water, saline fluid not being available at the time. When recovery occurred it was very rapid, abdominal movements returning within twelve hours.

Mr. P. J. FREYER read notes of two cases of Operation for Impacted Stone in the Ureter. Case 1.—A patient, aged twenty-three years, had been suffering for nineteen months from renal colic and hæmaturia which was ultimately diagnosed to be due to stone in the kidney. There was a slightly moveable tumour in the region of the right kidney as large as two fists with tenderness on palpation. The kidney was exposed through an oblique lumbar incision 4½ in. long. No stone could be felt, so he opened the kidney through the convex border, passing his finger through into the pelvis when a rush of urine took place. Still no stone could be felt, but on passing a catheter down the ureter an obstruction was found 4 in. from the pelvis. He enlarged the incision 4 in. or 5 in. till he could grasp the stone, which he removed through an incision into the ureter. He did not suture the wound in the ureter, but contented himself with placing a large drainage-tube down to the opening along the back of the kidney, and he partially closed the wound of the kidneys by two stitches. Bloody urine was passed freely in the evening and by both loin and ureter for several days. The patient completely recovered and he left the home five weeks after the operation. He had since operated on this patient's mother, successfully removing several oxalate stones from the pelvis and calyces. Case 2.—A man, aged fifty-two years, had been a patient at St. Peter's Hospital for some thirteen years suffering from multiple stricture of the urethra and symptoms of renal calculus. Exploration of the left kidney in 1895 gave only temporary relief. When he saw the patient in 1897 he was very ill with severe pain in the left loin and hæmaturia. The urine was thick and offensive and deposited about half pus. On Sept. 1st, 1897, he explored the left kidney through an oblique lumbar incision but could find no kidney. No relief followed, so he performed internal urethrotomy on Nov. 18th, but though the operation afforded a free exit for the urine it did not much diminish his other symptoms and the pain in the right loin increased. He continued to suffer very severely and on Nov. 9th Mr. Freyer examined him with a cystoscope under an anæsthetic and detected a long, narrow, rough, pencil-shaped stone projecting into the bladder from the right ureter and this after a little trouble he removed with a lithotrite, and since that time the patient had continued to improve in health although there was still pus in the urine. He briefly alluded to five other instances of stone impacted or encysted in the ureter on which he had operated. In three the stone was impacted at the ureteral orifice projecting into the bladder and felt by the sound (one female and two males).—Mr. BRUCE CLARKE detailed a case which occurred in a woman who had symptoms related to the right kidney. On incising the pelvis through a lumbar incision and introducing the finger no stone could be felt, but a black bougie passed down the ureter met with a stone about 5 in. from the kidney. He incised the ureter and removed the stone. He did not stitch the ureter, but it perfectly recovered its function, as, later, on cystoscopic examination urine could be seen issuing from it. Probably some cases of supposed cystic calculus were due to a calculus impacted in the lower part of the ureter ulcerating through, so that a pouch was formed containing a stone.—Mr. MORGAN commented on the fact that if a calculus were not in the usual place near the kidney or at the lower end it was usually where Mr. Freyer and Mr. Bruce Clarke had found it and he asked whether it was caught where the ureter passed over the brim of the pelvis or the iliac artery.—Mr. FREYER said he thought that a stone might be arrested at any point. It was probably thought that it was especially at the ends because those points were more accessible and so calculi were more often detected there.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Discussion on the Serum Treatment of Diphtheria.

A MEETING of this society was held on Jan. 13th, the President, Mr. EDWIN LEE, being in the chair.

A discussion on the Serum Treatment of Diphtheria was opened by Dr. CHURTON, Dr. BARRS, and Dr. TREVELYAN.

Dr. CHURTON said that it was not always possible to obtain immediately bacteriological evidence as to the nature of a doubtful case and it was therefore necessary to clearly define the clinical evidence—symptoms, signs, and history—which gave the greatest measure of probability that in any given case the specific bacilli were present. He recited the following case as an illustration. A well-nourished boy, aged eight years, under treatment in the Leeds Infirmary for left hemiparesis with complete blindness, apparently due to limited tuberculous disease, was shown to the society on Dec. 2nd. He was rather quickly recovering sight, &c. Next morning, the 3rd, he had a slight headache. At 4 P.M. the fauces and tonsils were rather red; the tonsils were also, perhaps chronically, enlarged. The temperature was 103° F. and the pulse was 140 (previously it had been from 80 to 100). On the 4th the temperature was 101·4° and the respirations were 28. Visible parts of the tonsils were covered with a creamy or greyish-creamy exudation, not leathery or fawn-coloured, not patchy but uniform. At one point, where the left anterior velum rested upon the tonsil, *the cream-white surface of the tonsil exactly resembled exudation from a crypt or follicle.* There was no exudation on the velum. Detachment of a fragment of exudation did not cause bleeding. It was impossible to obtain a bacteriological verdict until next day. There was no albuminuria. The glands at the angles of the jaw were slightly enlarged. The onset though rapid had not been sudden, as it is said to be commonly in ordinary sore-throat. A case of diphtheria complicating enteric fever had been in the ward for a few days a month previously but no case had occurred in it since. 1000 units of Messrs. Parke, Davis, and Co.'s serum were injected and precipitated sulphur was applied to the tonsils by insufflation. On the 5th at 5 P.M. the tonsils were cleaner and showed white spots on a red ground. The white spots were creamy and raised above the red surface but not abruptly. On the 6th it was reported that diphtheria bacilli and staphylococci had been found in the exudation. (The bacilli were also found in a scraping from the tonsil on the 14th; on the 21st there was none.) The boy was apparently free from his new disease; recovery from his original disease was scarcely, if at all, retarded. So far there have been no sequelæ of any kind. The serum produced no urticaria, albuminuria, or anæmia.

Dr. BARRS said that his experience had led him to adopt antitoxic serum treatment in all cases which were clinically recognised as diphtheria. He had seen nothing but good result from its use and he had never seen any ill-effects following its application. The serum should be used in all cases without waiting for a bacteriological diagnosis and used in efficient doses. He thought that the difficulties in making a clinical diagnosis of diphtheria were not so great as had been stated. For practical purposes he held most strongly that all membranous inflammations of the throat should be regarded as diphtheria and promptly treated as such to avoid the chance of fatal respiratory or cardiac failure.

Dr. TREVELYAN first shortly referred to the subject of artificial immunity and its relation to the serum treatment. He then discussed the question of the strength of the serum and the method of expressing it in immunity units. The longer the interval between the time of the infection and the injection of the serum the greater the difficulty of cure and the larger number of units required. The cause of the failure of the serum treatment lay in (1) its too late administration; (2) insufficient dosage, including inefficiency of the serum; and (3) the presence of a mixed infection. In speaking of the severe accidents which had very rarely attended the injection of the serum Dr. Trevelyan did not think that every case should be forthwith injected, but that if the general symptoms were obvious or the local lesion severe or extending then no time should be lost. The proofs of the value of the serum treatment were furnished by (1) statistics and (2) the obviously favourable action upon the symptoms. The numbers which had been treated were sufficiently numerous to warrant the conclusion that the serum treatment was efficient. The disappearance of symptoms of even considerable laryngeal obstruction under the serum treatment was illustrated from a recent case; it constituted one of the most striking instances of the favourable action of the treatment upon the symptoms of the disease. On the other hand, it must not lead to an undue postponement of tracheotomy or intubation. Except in so-called septic diphtheria Dr. Trevelyan did not think that local treatment was desirable as the disadvantages attending a thorough local treatment, altogether outweighed the advantage to be obtained from it in the presence of an efficient general treatment.

After a few remarks by the **PRESIDENT**, Dr. **SPOTTISWOODE CAMERON** commenced the discussion by giving the statistics of the epidemic of diphtheria in Leeds and illustrated them by lantern slides.

Dr **MOUILLOT** (Harrogate) doubted if the mortality of diphtheria was as great as generally supposed. Before bacteriological investigations were made severe cases were diagnosed as diphtheria and the mild ones were not recognised as mitigated examples of that disease. Hence an exaggerated mortality.

Mr. **EXLEY** had treated during 1898 47 cases of diphtheria with 16 deaths (37 04 per cent.). The cases under "ordinary" treatment were 32 with 15 deaths (46·8 per cent.) and the cases under "antitoxin" treatment 15 with only 1 death (6·6 per cent.). Two adults were treated and both recovered. Five cases over ten years of age were treated and all recovered. The death under antitoxin treatment was interesting from the fact that it was the first time that Mr. Exley had used the serum and the administration was delayed until the fifth day. 1500 units were then given and 1500 units twenty-four hours later as the case was severe (nasal). The child rapidly improved on the fourteenth day and sat up in bed for a little time; the patient then became faint and gradually got worse and died on the sixteenth day from the disease. No ill-effects were noted from the use of the serum.

Dr. **ROBINSON** (Low Moor) referred to a severe case in which the symptoms of laryngeal obstruction passed away under the serum treatment. The child, aged nine years, was injected with 3000 units within eighteen hours and made a rapid recovery. Dr. Robinson thought that a short delay was thus justifiable before proceeding to tracheotomy in such cases.

Mr. A. E. **PEARSON**, of the Leeds City Infectious Hospitals, dwelt upon the importance of a bacteriological examination being made in suspected cases before admission.

Dr. **MANTLE** (Halifax) reminded the meeting of the communication he made to the society in May, 1895, when he brought forward three successful cases. He was then a believer in the antitoxin treatment and after a more extended experience he was a greater advocate of it being adopted in all cases. He was, however, convinced that it was wrong to discard local treatment inasmuch as the serum was not a germicide but was merely antagonistic to the poisons manufactured by the bacilli in the throat.

Dr. **BAMPTON** thought that clinically all membranous sore-throats must be treated as diphtheria. But all diphtheritic sore-throats were not membranous.

Dr. **EDDISON** made some remarks chiefly on the question of local treatment.

Mr. **EDWIN ROBERTS** had treated 22 cases of diphtheria during the recent epidemic and 21 of these were injected. The one in which the serum treatment was not employed was moribund when first seen and died in a few hours. Of the remaining 21 2 died. The first of these was injected on the fourth day. He was doing well when a fatal abdominal complication supervened. In the second case, seen on the fifth day, the child was almost pulseless and died the same night in spite of the serum treatment. In those cases injected early and sufficiently the good results were so regularly and constantly observed that one was fully persuaded that the antitoxin treatment was absolutely specific. No other treatment, local or otherwise, was adopted in these cases beyond forced feeding and stimulants.

Dr. **HELLIER** said that he had frequently noticed in cases of diphtheria an early slowness and irregularity of the pulse which were useful in diagnosis. He thought it a mistake to say that whenever there was membranous exudation the case was diphtheritic.

Dr. **CHADWICK** stated that the present success of tracheotomy for "croup" in young children was quite astonishing as compared with former times, the only difference being the simultaneous use of antitoxin.

Mr. **LITTLEWOOD** said that before the days of serum treatment he had performed tracheotomy for diphtheria on 12 occasions. Of these only 2 recovered and 1 died subsequently from cardiac paralysis. Since this time he had operated on 3 most severe cases, all of which recovered under the combined treatment of the antitoxin and tracheotomy.

Dr. **CHURTON**, Dr. **BARRS**, and Dr. **TREVELYAN** replied.

Dr. **TREVELYAN** showed a series of Cultivation and Microscopical Preparations together with Lantern Slides and Diagrams of the Diphtheria Bacillus, and Mr. A. E. **PEARSON** Microscopical Specimens from cases of Diphtheria in the City Fever Hospitals.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.—Disease of the Cerebellum.—Aphasia.

THE fourth ordinary meeting of this society was held on Jan. 18th, Dr. P. A. **YOUNG** being in the chair.

Dr. **GREIG** showed a man who possessed a Symmetrical Congenital Perforation of each Parietal Bone. The case was reported by Dr. Greig in Vol. XXVI. of the *Journal of Anatomy and Physiology* and is remarkable on account of the rarity of the occurrence. The man had been a soldier for many years and had suffered no inconvenience from the defect. He was slightly under the usual height, somewhat microcephalic, and exhibited in a feeble manner the Mongolian type of countenance. Each perforation was 2½ by 3½ centimetres in diameter and occurred at the postero-superior angle of either parietal bone. They were separated by a bony ridge and the margins were not elevated above the general surface. When the areas were firmly pressed upon the patient suffered from giddiness and flashes of light appeared in both eyes. Professor Turner described a very similar case in the *Edinburgh Medical Journal* of 1865 and Broca recorded two cases; in one of the latter the openings were not so large as in the present case and the second occurred in a negro where the parietal foramina were double. Sir George Humphry described a skull which was in the Museum at Cambridge where these parietal openings were large enough to introduce the finger tips.

Mr. **CAIRD** and Mr. **GUY** showed the case of a man who had suffered from Untreated Syphilitic Disease about five years ago. His condition was miserable as both hard and soft palate were gone as well as the front part of the superior maxillary bone. The cartilage of the nose had been totally destroyed as well as a large part of the upper lip. There was one common naso-pharyngeal cavity. On introducing the finger it was found that the vomer, ethmoid, and turbinated bones were all absent, the finger reaching directly to the cribriform plate of the ethmoid above and to the sphenoidal cells behind. There was no vestige of bone on which to fit an obturator. Mr. Guy had devised a vulcanite obturator which attached to a lip (covered by a false moustache) and a nose were all kept in place by an empty pair of spectacles. The patient's speech which was quite indistinct before treatment is now improving.

Dr. **HARVEY LITTLEJOHN** showed two specimens of Hypertrophied Heart in which sudden death occurred. 1. The first was from a lad, aged twenty-one years, who was found dead in bed and had apparently been perfectly healthy previously. At the ages of seven and fourteen years he had suffered from attacks of rheumatic fever, but for seven years had been in perfect health, bicycling, &c., and being only short of breath after exertion. The heart weighed 28oz. and the hypertrophy was apparently due to aortic and mitral valve disease The auricles were also greatly enlarged. 2. The second specimen was from a man who had been in apparently perfect health when discharged from the Royal Infirmary of Edinburgh but who fell down dead suddenly the same day. The specimen was obtained from the body of an old soldier, aged thirty-five years The heart was one of the heaviest recorded, 3lb (48 oz.).

Dr. **LITTLEJOHN** also showed a rare condition, Partial Rupture of the Heart. The specimen was obtained from the body of an old lady who on getting out of bed one morning felt very ill and had severe pain over the heart; she was put to bed, poulticed, and given peppermint water. She lingered all that day and was found lying dead on the floor next morning. On post-mortem examination a rupture of the internal surface of the left ventricle was found, not perforating the heart, but simply running across the chordæ tendineæ and musculi papillares for about 2 in. This rupture was not caused by the careless handling of a fatty heart, but was actually due to by a pulley attached to a tandem bicycle. He thought the ideal apparatus for the future would be of the Wimshurst type—to drive the tube without coil or batteries. The intense glare rendered the use of the screen unsatisfactory; his screens were covered with celluloid. He used glass sensitive plates exclusively for photographic purposes. On account of the great heat and sandstorms developing was attended with great difficulties, but the results, although photographically imperfect, yielded all the information which was needed by the surgeon. After the battle of Omdurman 121 wounded were brought to Abadieh. Of that number 21 cases could not be diagnosed accurately by ordinary means; in 20 of these the rays showed the presence or absence of a bullet, the remaining patient being too ill to be examined. The method proved valuable in spent bullet wounds, as the possible presence of a foreign body could be ascertained without probing. Accurate localisation was effected in all instances where there was any doubt. His experience showed that probing for an uncertain bullet with its subsequent pain was a thing of the past, that the presence of a bullet could be localised with mathematical certainty in the deeper parts of the body on field service, and that great help could be gained in the case of uncertain fractures.—The President congratulated Major Battersby on the excellent results obtained under extreme difficulties.—Surgeon-Major Beevor narrated some of his experiences on the Indian frontier in which he had applied the Roentgen methods to many hundreds of cases. He found the rays useful in many conditions other than the presence of a bullet and instanced necrosis and undetected partial fractures. In one case a bullet penetrated the liver and lodged in the opposite side of the body. He had found both celluloid films and sensitised paper unsuited for military work.—Professor Silvanus Thompson said that military surgeons should first state the exact shape and size of Wimshurst machine they wanted so that electricians might meet their requirements. He suggested the use of celluloid as an insulating agent and of mica plates for sensitive films.—Mr. W. Webster, Mr. Wilson Noble, Mr. E. Payne, Mr. L. Miller, Mr. J. H. Gardiner, and Major Kilkelly, R.A.M.C., continued the discussion, chiefly from the photographic and electrical standpoints.

MADRAS MEDICAL ASSOCIATION.—A general meeting of this association was held on Dec. 13th, 1898, in the Madras Medical College premises, Dr. Grant being in the chair.—Mr. J. V. Ramasawmynaidu, L.M.S., read a paper on Plague and Vaccination. He first referred to a telegram from the Minister of Turkey to the Secretary of State for India setting forth that the Turks believe that vaccination protects against plague, and then to the opinions of Mr. Haffkine of Bombay and Lieutenant-Colonel Lawrie, I.M.S., of Hyderabad, the former (from statistics taken from Bombay Jail) asserting that plague was not influenced by vaccination one way or the other, the latter asserting that double vaccination is likely to protect against plague. He said that the belief of the Turks in the efficacy of vaccination against plague must have had some justification for its origin. He quoted some old physicians who held the same opinion. He showed that theoretically it was likely that double vaccination may protect against plague on the same principle on which Widal's test for typhoid fever is based. The principle is that serum from man or animal suffering from an active infective fever is detrimental to certain bacteria, that as the result of bacteriological research Mr. A. G. R. Foulerton had shown that glander bacillus was thus influenced not only by serum from a patient suffering from glanders but also by serum derived from a horse immunised against diphtheria. It was not going too far to expect that a subject well protected against small-pox may be immune to plague (by the injurious effect which the serum of the former would have over the bacilli of the latter). He pointed out that the immunity against plague may have been due to the vaccine lymph used in Turkey having become contaminated by plague bacilli.

BOURNEMOUTH MEDICAL SOCIETY.—The ordinary meeting of this society was held on Jan. 18th, the President, Mr. T. F. Gardner, being in the chair.—Dr. Ross read notes of a case of Tuberculous Salpingitis for which laparotomy was performed.—Dr. Snow read notes of a case of Basal Phthisical Cavity treated surgically.—The President initiated a debate on the subject, Should the Bournemouth Medical Society take any active part in the campaign against Tuberculosis, and, if so, in what way will it be best to move in the matter? He said he thought the local medical society should take an active interest in the matter and coöperate with the National Association for the Prevention of Consumption, &c. He did not think the matter should be left solely to private enterprise to establish sanatoria for the so-called open-air treatment of tuberculosis.—The President and Dr. Arthur Ransome having given some particulars of the National Association for the Prevention of Consumption it was unanimously resolved:—

> That the Bournemouth Medical Society approve the necessity of forming a local branch of the National Association for the Prevention of Consumption and other forms of Tuberculosis and that seven members be appointed to act with an equal number of the Town Council, thus forming a provisional committee to further consider the matter.

At a meeting of the Town Council held on Jan. 19th they appointed the following seven members—viz., the Mayor, Alderman Hirons, Alderman Hosker, Councillor Roker, Councillor Jolliffe, Councillor Mate, and Councillor Kinsey-Morgan—to serve on the provisional committee proposed by the Bournemouth Medical Society to consider the desirability of forming a local branch of the National Association for the Prevention of Consumption and other forms of Tuberculosis.

ÆSCULAPIAN SOCIETY OF LONDON.—A meeting of this society was held on Jan. 20th, the Vice-President, Dr. R. Ostlere, being in the chair.—Mr. W. Campbell M'Donnell showed a case of Primary Optic Atrophy in a man, aged twenty-five years, without any nervous symptoms or previous causal taint.—Mr. Macdonald Brown showed a case of General Discrete Molluscum Fibrosum in a man, aged fifty-four years, who had been so affected for thirty-four years.—Dr. C. G. Mack read notes of a case of Large White Kidney in a woman, aged forty-nine years, whose symptoms were occipital headache and vomiting primarily. Fifteen days later death succeeded coma. The brain and membranes were found to be normal and the kidneys were large with adherent capsules and pale.—For the President was shown a case of Psoriasis of all the Nails of two years' standing in a man, aged sixty-one years.—Mr. W. Campbell M'Donnell read notes of a case of Parotitis, Tonsillitis, and Diphtheria in a girl, aged eight years, who had ailed several days and complained then of sore-throat and languor. On the tonsils were small white patches, the ordinary appearance of follicular tonsillitis. The temperature was 102° F. in the morning. A few days later both the submaxillary salivary glands were inflamed. In two more days the teeth could be scarcely parted and the left parotid salivary gland was inflamed. She progressed favourably until on the eleventh day of attendance fluid taken returned *viâ* the nose. Next day she could open the mouth; it was then found that there were two diphtheric patches at the base of the uvula and the palatal palsy had increased. Antitoxin was then injected and also on the next day but she died during an attack of dyspnœa.

HEALTH OF CARDIFF.—At the meeting of the Cardiff Health Committee held on Jan. 10th the medical officer of health, Dr. Walford, reported that 5520 births had been registered during 1898, giving a rate of 31 per 1000. The deaths numbered 2627, equal to a rate of 14·8 per 1000. This is the lowest death-rate since 1845 when returns were first taken. The rate of mortality from zymotic diseases was 2·52 per 1000.

A HOME FOR INEBRIATES.—At the meeting of the Gloucestershire County Council held on Jan. 9th it was reported that the committee of the Royal Victoria Home, Horfield, are erecting a public institution under the provisions of the Inebriates Act at Westbury-on-Trym and th they had applied to the council for a contribution. It w stated that the building will accommodate 880 patients a that it stands on 80 acres of land, the cost of the undertaki being estimated at £20,000. After some discussion council resolved to contribute £1000 towards the institu conditionally that the county should be entitled to 7 for twenty-five years at a cost of 6*d.* each per day. chairman (Sir J. E. Dorington, M.P.) added th committee of the Royal Victoria Home were in nego with other counties and probably it would becom reformatory for the southern part of England.

Reviews and Notices of Books.

Twentieth Century Practice of Medicine. Edited by THOMAS L. STEDMAN, M.D. New York. Vol. XV.: Infectious Diseases. London: Sampson Low, Marston and Co. 1898. Pp. 658.

THE general character of this valuable series of volumes needs no further comment in our columns, reviews of the preceding numbers having already appeared, so that we can at once turn to the consideration of the various contributions in the one now under consideration.

The first is on Influenza, by Dr. Ditmar Finkler. We have already referred to it in a leading article in our issue of Jan. 14th, p. 103, and we there designated it as one of the best monographs of the subject which we had met with. A full and most instructive *résumé* of the epidemiology of the disease is given, containing brief accounts of all the epidemics of influenza of which medical history affords evidence. The first records referring to pestilential diseases which are regarded by historians as descriptive of influenza are met with in Livy and refer to a pestilence in the year 412 B.C. According to August Hirsch the first influenza epidemic occurred in 1173 and he places it in his work as the first out of eighty. The pandemic of 1889-90, however, forms the starting-point of the modern history of the disease, and a full account of it is given. The various theories of the etiology are carefully analysed, but the view is maintained that it can only be spread by human intercourse and that atmospheric and other conditions play only inferior parts. Dr. Finkler agrees with Dr. Leichtenstern that "occupation and social position only in so far exert an influence on the frequency of the disease as certain occupations and positions in life lead to more or less contact with travellers" The micro-organism discovered by Dr. Pfeiffer in the year 1892 is considered by Dr. Finkler to be the pathogenic organism of the disease, and an exhaustive account is given of the characteristics, mode of culture, &c., of the bacillus. Dr. Pfeiffer's conclusions are also adopted, as follows: (1) any development of the influenza bacillus outside the human body, in the ground or in water, is impossible; (2) the spread of influenza by dried and powdered sputum can occur only to a very limited extent; and (3) the contagion, as a rule, is conveyed by the recent still moist secretion from the nasal and bronchial mucous membrane of influenza patients." The bacteriological examination of the sputum is laid considerable stress upon as the author believes that the bacillus can be demonstrated without difficulty, and he insists that in doubtful cases a positive diagnosis should not be made unless the organism has been found. Under the head of Pathology especial reference is made to the changes found in the respiratory tract

Gohe discussion of the Symptomatology of Influenza
they are to be of any use sns a most exhaustive dissertation
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written respectively by Mr. Hu unfortunately for the human
and Dr. W. E Fothergill, and y slight attack.
of the greatest possible use no ume is one on Typhus Fever
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them says, "but I knew that," and recorded he dwells at
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JOURNALS some startling statistics
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WELCH, M.D., Vol. III, No. 6. be greatly lessened by

also reviews the evidence which has been advanced in favour of, and against, the doctrine of the autochthonous origin of this disease but is unable to arrive at any definite conclusion. He says: "My own opinion is that we have no right to sacrifice observed and attested facts to the lack of a satisfactory explanation of their causes and that we ought to cherish the hope that our science as it progresses will give us the key to discover the primary cause of typhus fever and we must content ourselves in the meanwhile with noting the facts and studying the secondary causes."

The descriptions of the symptoms of typhus fever are well and clearly defined and the section on diagnosis could only have been written by one who had had an extensive practical knowledge of the disease. An account of the experiments which have been tried to obtain an antitoxin is given but up to the time of writing no satisfactory results had been obtained.

The third contribution is on Plague, by Dr. Kitasato and Dr. Nakagawa. As would be expected, the section on the bacteriology of the disease forms most interesting reading. After detailing his own experiments Dr. Kitasato refers to those of Professor Yersin and says: "It has been quite generally assumed that the bacillus above described [the one discovered by the author] is identical with that of Yersin, but this assumption is incorrect"; and a summary is then given of their differences, and the writer then concludes: "Further bacteriological investigations of the plague are desirable and it is necessary that the scientific world should come to some definite conclusion as to the etiological bacilli before orrhotherapy and preventive inoculation can be instituted on a truly rational basis." The description of the disease does not follow the clinical arrangement usually adopted. Three types are taken: (1) glandular or bubonic plague; (2) pestis siderans or plague septicæmia; and (3) plague pneumonia. We do not consider this classification as comprehensive as the one adopted by the Bombay Plague Committee. This article has scarcely been brought up to date, only a very few lines being devoted to Professor Haffkine's investigations whilst Dr. Hankin's name does not appear.

The subject of Glanders is considered by Dr. Frank S. Billings. His definition is cumbersome and might almost be termed "ultra-scientific": "Glanders is an endogenous, obligatory-parasitic, invasio-infectious disease, due to the pathogenic action of a specific bacillus within the body of a suitable host which finds its historico-primary origin and its present genesis invariably among the solipeds, principally the horse, from which it is extended to other animals and to man, directly or indirectly, but not to cattle or swine." Medical terms are sufficiently numerous and expressive not to need others to be coined on the slightest provocation; and why (as is done in other parts of the contribution) are such Latin phrases employed as "causa interna," "causa externa" instead of the corresponding English phrases? Apart from this unnecessary use of Latin terms Dr. Billings has given us a very good account of the subject on which he writes, the section on Pathological Anatomy being especially interesting.

The same author contributes a paper on Anthrax which he describes as "an acute, exogenous, facultative, parasitic, infectious disease which is never general in its extension but invariably finds its locus of primary origin in telluric and caloric conditions of certain localities which supply the pathological necessities of its specific cause—bacillus anthracis." In describing the pathogenic organism the opportunity is taken of a disquisition on micro-organisms in general and very instructive reading it is. Anthrax being one of the bacilli the mode of growth, action, &c., of which is thoroughly understood such a digression is not out of place.

Dr. Billings's method of writing is peculiar, quotations from Scripture and Latin phrases being freely mixed with rather flowery English, but the knowledge that can be obtained by perusing the pages of his writings is none the less considerable.

A short article on Foot-and-Mouth Disease appears by Dr. Ismar Boas of Berlin.

Dr. Ponfick writes on Actinomycosis. Considering that Dr. Ponfick was one of the earliest observers of this complaint we are rather disappointed with his present contribution. It is very brief and the most modern literature does not seem to have been consulted. We notice especially that there is no reference to the work which has been done on the subject by English observers.

Dr. Keirle has evidently taken a good deal of trouble in putting together his paper on Rabies. The results of numerous experiments on animals are detailed and throw much light on the etiology of the disease, and also an account is given of the cases of eight boys who were bitten by a large dog in Baltimore in 1896; four of them died. The Pasteur method of treatment was adopted, but it was shown that the virus was from the dog and not from the treatment. We consider Dr. Keirle's contribution one of the best in this volume.

The last paper is on Pyæmia and Septicæmia and is written by Dr. J. M. Garton and Dr. J. M. Garton, jun. The sections on Prophylaxis and Treatment are particularly worthy of notice.

Vaccination: its Natural History and Pathology. By S. MONCKTON COPEMAN, M.A., M.D. Cantab., M.R.C.P. Lond. London: Macmillan and Co. 1899. Price 6s. net.

THIS volume, which consists of the Milroy Lectures delivered before the Royal College of Physicians in 1898, is published in the same convenient form as were Sir Richard Thorne's Milroy Lectures for 1891 on Diphtheria. Although we reproduced Dr. Copeman's lectures in full in THE LANCET for May 7th, 14th, and 21st, 1898, we may, in view of the fact that an increasing amount of interest is now being manifested in the natural history of vaccinia and variola, indicate for the benefit of our readers the contents of the present volume.

The introduction, which covers some forty pages, furnishes a somewhat impressionist but very readable sketch of the history of variola, of the introduction and practice of inoculation, and of Jenner's early work as regards cow-pox and horse-pox. Following this comes a chapter dealing with the relationship of variola and vaccinia, in which the author views the identity of small-pox and vaccinia as a subject still awaiting a definite solution. He prefers to speak of vaccinia as "one with small-pox," regarding it as a matter of relative indifference whether small-pox in its passage through the calf assumes as it were a new specificity, or becomes merely a modification of itself. In this chapter a very concise summary is given of the work done in the variolation of bovine animals. The history of the various lymph stocks, occupying as it does but six pages, is not dealt with quite so fully as, having regard to the controversies which have raged around this subject, we could have wished; but clearly Dr. Copeman's space has been limited and he has managed in it to convey a capital idea of very much of the subject of which he treats. The chapter relating to the bacteriology of vaccine lymph furnishes an historical account of the gradual progress which has been made towards the light in this direction, and the records of the author's experiments with regard to the susceptibility of monkeys to both vaccinia and variola which are set forth in the next chapter are highly interesting. As he remarks, the fact that these animals evince a marked receptivity to both vaccinia and variola goes far to dispose of the objection raised by Dr. Collins and Mr. Picton that the "variolous test" can no longer be applied to test the protective power of vaccine lymph. Of glycerinated calf lymph we have heard much of late and we may expect also to hear something of it in the future. Those, therefore, who wish to understand exactly what it is which is claimed for this lymph will do well to read Chapter IX. of Dr. Copeman's lectures. Certainly much of the correspondence which has recently taken place upon this subject has rendered it apparent that Dr. Copeman's claims in this direction have not been generally comprehended. Glycerine has doubtless been at times added to lymph as a *diluent* for very many years, but it was Dr. Copeman who undoubtedly ascertained by virtue of his experiments the germicidal properties of glycerine when added in certain definite proportions to vaccine lymph. It is the application of this discovery which it is to be hoped, will by its direct influence tend to diminish the allegations brought by ignorant persons against vaccination, and which will indirectly, by doing away with the necessity for puncturing the vaccine vesicles, reduce somewhat the after-complications which are, unfortunately, apt to occur from time to time. In connexion with this subject of glycerinated lymph several illustrations are furnished in the volume before us, showing by means of agar plates the gradual diminution of colonies in lymph treated with pure glycerine. With regard to the duration of activity of glycerinated calf lymph the author states that this is probably governed by several circumstances, and notably the condition of the calf itself. As to the question of potency, however, but little concern, according to Dr. Copeman, need be felt, and he tells us that from an average calf lymph can be furnished which, treated with glycerine, will suffice to vaccinate at least 5000 persons. This lymph will, we are glad to hear, retain its full activity for eight months. In an appendix to Dr. Copeman's instructive lectures is the very interesting report submitted by Sir Richard Thorne and himself to the Local Government Board on their joint inspection of the vaccination arrangements adopted in certain European countries.

The Surgical Anatomy of the Lymphatic Glands. By CECIL H. LEAF, M.A., M.B. Cantab., F.R.C.S. Eng., Demonstrator of Anatomy at the London Hospital. London: Archibald Constable and Co. 1898. 8vo. Pp. 72. Price 10s. 6d. net.

THE average student when dissecting ignores utterly all lymphatic glands and lymphatics; he looks upon them only as so much material which has to be cleared away in order to expose the structures which he considers of more importance. The examining bodies also have favoured this idea by refraining from asking questions on the positions of lymphatic glands and vessels; but when the student commences the study of medicine and surgery he finds that the lymphatic system has an importance with which he had never previously associated it. The aim of this book is to give by means of a series of well-executed diagrams the positions of the chief groups of lymphatic glands. For the last three years Mr. Leaf has been making a large number of researches as to the situation of these glands and he has received much assistance in these investigations from the use of formalin. A large quantity of a dilute solution of this liquid was injected into the internal jugular vein and common carotid artery of a subject for one month and when the body was dissected later it was found that the glands were well hardened and that the lymphatic vessels could be seen as semi-transparent whitish cords which were so tough that when the glands were pulled from their bed the vessels were partly drawn out also. The author has not attempted, except incidentally, to point out the areas which correspond to each group of glands, but we echo his hope that he will work out these points later.

With a few exceptions all the diagrams are original. We have already mentioned that they are well executed, but that is a feeble expression of the excellence with which these diagrams have been reproduced; nearly all the plates are coloured and they number eighteen. They are very good examples of chromo-lithography.

In a few cases Mr. Leaf has thought it advisable to rename certain groups of glands. It is, as a rule, a pity to introduce fresh names for it tends to confusion, but it is here probably justifiable.

It would serve no purpose to describe more fully the contents of this work, but there is one point which deserves particular notice. In some of the lower vertebrates several communications are known to exist between the lymphatics and the veins, but in man at only two points have lymphatics been found to pour their contents into the venous system. Mr. Leaf has discovered that in the inguinal region lymphatic vessels exist which divide—one branch going to a lymphatic gland and the other joining a vein. These observations are of great interest and the point deserves re-examination in order that they may be confirmed, but there is no *a priori* impossibility in the existence of such a communication The only real fault we can find in the book is that it possesses no index.

LIBRARY TABLE

Herbert Fry's Royal Guide to the London Charities for 1899. Edited by JOHN LANE. London: Chatto and Windus. Price 1*s.* 6*d.*—The large amount of benevolent work operating in the great city of London is usefully chronicled in a systematic manner by Mr. Lane. So far as we have been able to verify the references they are both accurate and up to date; but the compiler, we think, errs on the side of including rather more institutions under the head of "charities" than is quite consistent with the true interpretation of even this much-abused word For instance, we feel at a loss to quite comprehend in what way the London Anti-Vivisection Society, the National Anti-Vivisection Society, and certain religious or polemical institutions can legitimately be classed as "charities"; and the editor apparently shares our scepticism, seeing that the column opposite these societies, headed "Number of persons benefited last year," is left blank. It is worthy of note that the contributions to the various charitable funds promoted by the Lord Mayor at the Mansion House last year amounted to the large total of £700,000.

Messrs. John Wright and Co., Bristol, send us three little books in white paper covers lettered in gold, entitled, *Golden Rules of Surgical Practice*, *Golden Rules of Gynæcology*, and *Golden Rules of Obstetric Practice*. For works which if they are to be of any use should be constantly consulted we think the "get up" is a mistake, for it is modelled on the fashionable religious little books which were popular a few years ago under some such title as "Gold Dust." They are written respectively by Mr Harry Fenwick, Dr. S. J. Aarons, and Dr. W. E. Fothergill, and contain aphorisms and maxims of the greatest possible use not only to students and house surgeons but to practitioners of an older growth. They are the kind of points about which everyone when reminded of them says, "but I knew that," and they are also just those

in the November number of the *Journal of Experimental Medicine* is the extraordinary number and beauty of the photographs and coloured illustrations with which some of the articles are illustrated. We seldom see in any publication such a number of expensive illustrations brought together. Eight of the plates, containing 34 beautiful drawings, are coloured, the remainder, with the exception of one coloured drawing, are exquisitely reproduced photo-micrographs. If we may make one criticism it is that in one or two instances the articles are over-illustrated and that a smaller number of drawings would have been sufficient to demonstrate the various conditions dealt with in the text. The result of all this is that occasionally the article appears to assume an importance somewhat out of proportion to its real value. One of the most important of the articles is that dealing with a Form of Degeneration of Striated Muscle met with in the Uvula, by A G. Hoen, a paper of great interest from the fact that so little has hitherto been done on this subject. The author finds that in the relaxed uvula of inveterate smokers and those suffering from chronic pharyngitis there are degenerated muscular fibres in which proliferation of "interstitial" nuclei, granular disintegration of some of the individual fibrillæ, pigmentation of the nuclei of the muscles, and the formation of swollen and œdematous-looking patches occur. Dr. Ludwig Hektoen returns to the question of multi-nucleated giant cells and gives a record of his studies on these structures in coagulated blood-serum as it is being absorbed in the anterior chamber of the rabbit's eye. He still maintains that these giant cells may subdivide into uninuclear small cells and holds that they bear out his contention "that the giant cells in healing non-degenerated tubercular tissue may separate into small living cells and that the giant cells of tuberculosis are not necrobiotic elements from the very moment and from the very mode of their formation, as has been the general teaching, especially in Germany." Dr. W. L. Worcester contributes a paper on Regeneration of Nerve Fibres in the Central Nervous System; and Dr. F. B. Mallory gives a most careful Histological Study of Typhoid Fever. As a result of his investigations Dr. Mallory comes to the following conclusions: that the typhoid bacillus produces a mild diffusible toxin, partly within the intestinal tract and partly within the blood and organs of the body; that it produces proliferation of endothelial cells which acquire what he calls "malignant properties"; that the cells have eccentric nuclei and that they are markedly phagocytic; that they occur where the circulation is slowest, but that they may be found in every part of the lymphatic system of the body which the toxin may reach; that these cells pass through the liver and lungs and get into the general circulation, some also coming from the abdominal lymphatics through the thoracic duct; and they may give rise to vascular emboli. Dr. Mallory maintains that histologically the typhoid process is proliferative and stands in close relationship to tuberculosis; the lesions, however, are diffuse and bear no intimate relation to the typhoid bacillus, whilst the tuberculous process is focal and stands in closest relation to the tubercle bacillus. The other

Production of Acid by Allied Bacteria, by Charles H. Higgins, B.S., D.V.S.; and Diffuse Sarcoma of the Cerebral and Spinal Pia Mater, by George H. Weaver, M.D.

The Journal of State Medicine. Vol. VII. No. 1. London: Baillière, Tindall, and Cox. Price 2s.—The January number of this journal is largely devoted to the subject of Tuberculosis, containing as it does Sir Richard Thorne's second Harben Lecture which deals mainly with the influence of milk in the spread of this disease, and Mr. Christopher Middleton's paper on Compensation for Tuberculosis which was read at the veterinary conference of the Dublin Congress of the Royal Institute of Public Health. There is, too, a paper by Mr. Thomas McGuinness, M.R.C.V.S., on the Housing of Cattle in its Bearing on the Elimination of Tuberculosis, and one on the Milk of Tuberculous Animals by Mr. F. C. Mason, M.R.C.V.S. *As a fitting accompaniment to these* papers this volume contains a good portrait of Mr. Chaplin, the President of the Local Government Board, who may soon have to deal in a legislative sense with this important subject.

West London Medical Journal.—One of the original communications in the January number is a paper by Dr. F. J. McCann on Difficulties in the Diagnosis of Early Tubal Pregnancy. He describes two successful operations for this condition and to show how many signs and symptoms of tubal pregnancy may be found apart from it he gives some details of a case of dermoid cyst of the ovary. Dr. A. W. Addinsell describes a case of Ovariotomy followed by Parotitis; some time before the operation the patient suffered severely from a strong solution of perchloride of mercury having been given as an enema in mistake for soap and water.

Birmingham Medical Review.—Dr. C. E. Purslow, writing in the January number on the Treatment of Uterine Inertia, mentions that he has found quinine taken in 5-grain doses at intervals of two hours to be a valuable oxytocic, and that in several cases where the first stage of labour was prolonged for five days and upwards bipolar podalic version, with careful gradual extraction, was followed by firm contraction of the uterus without the least tendency to post-partum hæmorrhage, thus contrasting favourably with the ordinary experience of forceps under similar conditions. M. S. V. Wechsler contributes an illustrated article in the French language on an Abscess of the Parietal Lobe of the Right Cerebral Hemisphere. Mr. Christopher Martin writes on the Treatment of Puerperal Fever.

Dublin Journal of Medical Science.—The original communications in the January number are by Dr. J. M. Finny on Acute Hæmorrhagic Ascites, by Mr. J. S. McArdle on the Operative Treatment of Hernia, by Dr. H. S. Purdon on Lupus Erythematosus, and by Dr. Patrick Letters on Public Health and Preventable Disease in the Counties of Cork, Kerry, and Waterford.

La Grèce Médicale.—This monthly journal, printed entirely in the French language, made its first appearance at Syra in Greece in December, 1898. Dr. John Foustanos of Syra, who has for several years conducted the journal *'Ιατρικὴ Πρόοδος* (Le Progrès Médical), printed entirely in Greek, believes that the unfamiliarity of most European nations with modern Greek has prevented foreigners from realising what progress has of late been made by his countrymen in medical science and literature, and with the view of remedying this deficiency he has brought out *La Grèce Médicale*, which is distinct from and very much smaller than *'Ιατρικὴ Πρόοδος*, although it is intended that a portion of the contents, such as reviews of books, shall appear in French in the *one* journal and in Greek in the other. Among the original communications in the first two numbers of *La Grèce Médicale* may be mentioned papers on the Malarial Diathesis in the Caucasus by Dr. Timoleon Triantaphyllides of Batoum; on the Use of Berberine (the alkaloid of Berberis vulgaris) in the Treatment of Malarial Enlargement of the Spleen by Dr. G. T. Lascarato of Patras; and on Large Uric Acid Calculi in the Urethra by the editor. The subscription to the journal is 4 francs per annum.

Analytical Records

FROM

THE LANCET LABORATORY.

(1) THIOCOL; AND (2) AIROL (ROCHE).

(HUGO LORENZ, 7 AND 8, IDOL-LANE, E.C.)

THIOCOL is a comparatively new guaiacol derivative which, unlike most guaiacol compounds, is easily soluble in water. It is a white crystalline powder smelling freely of guaiacol. As a matter of fact it is the guaiacol-sulphonate of potassium. It is said to contain 60 per cent. of guaiacol. The advantages which this compound possesses over guaiacol are that while its administration is said to give encouraging results in the treatment of pulmonary tuberculosis it does not irritate the mucous membrane, while being freely soluble in water it is more readily assimilable. Airol is the oxyiodogallate of bismuth. It yields abundance of iodine on treatment with nitric acid. In spite of this it is devoid of iodous smell. It is suggested as an advantageous substitute for iodoform possessing three times the bulk of pure iodoform. These properties combine to make airol an excellent antiseptic application, especially in the form of a dusting powder, or it may be used with an unguent.

LEUBE ROSENTHAL'S MEAT SOLUTION.

(H. POTHS AND CO., 4, 5, AND 6, BURY-COURT, ST. MARY AXE, E.C.)

The analysis of this preparation gave the following results: moisture, 65·22 per cent.; meat substances insoluble in cold water, 14·64 per cent.; meat substances soluble in cold water, 11·64 per cent.; and fat, 4·54 per cent. It is not quite clear to us why this preparation is called a "solution." It presents the appearance of pulped beef, that is, beef in a fine state of division. It possesses an excellent flavour and makes a very palatable broth or soup. Doubtless on account of the fine pulpy state to which the muscular fibre has been reduced it is easily digestible. As regards nutrient value it is decidedly superior to a clear extract which invariably contains a very large amount of stimulating extractive principles in proportion to real nutritives. It contains only traces of proteoses.

OLD IRISH WHISKY.

(JOHN McLAUGHLIN, COLERAINE.)

It is conceivable through the enormous demand during recent years for Scotch whisky to the exclusion of Irish whisky that the stock of the latter has been laid by with the advantage that it has since undergone maturation in cask under the influence of age. For this reason the chances of genuine Irish whisky being old are considerable. We have recently examined a specimen sent to us by the above firm of distillers and the results of examination and analysis are quite in accordance with the statement that it was distilled as long ago as 1889. The analytical results were as follows: alcohol, by weight 43·00 per cent., by volume 50·57 per cent., equal to proof spirit 88·62 per cent.; *extractives*, 0·17 per cent.; mineral matter, 0·05 per cent.; and acidity reckoned as acetic acid, 0·06 per cent.

The spirit is decidedly dark in colour and the taste characteristic of good Irish whisky—i.e., peaty but very smooth and mellow. It is destitute of that harsh character which makes raw and young spirit dietetically unsuitable.

ITALIAN WINES.

(EGIDIO VITALI, 5 AND 6, GREAT WINCHESTER STREET, E.C.)

The specimens received, all of which we have submitted to analysis and examination, represent most of the types of wine which are imported into this country from Italy. We will record first the figures of analyses. Capri (white wine): extractives, 1·55 per cent.; mineral matter, 0·25 per cent.; sugar, 0·76 per cent.; tartaric acid, 0·52 per cent.; acetic acid, 0·31 per cent.; alcohol, by weight 11·62 per cent., by volume 14·37 per cent., equal to proof spirit 25·18 per cent. Falerno (white wine): extractives, 1·12 per cent.; mineral matter, 0·19 per cent.; sugar, 0·11 per cent.; tartaric acid, 0·66 per cent.; acetic acid, 0·13 per cent.; alcohol, by weight 8·64 per cent., by volume 10·73 per cent., equal to proof spirit 18·81 per cent. Chianti (red wine): extractives, 2·00 per cent.; mineral matter, 0·29 per cent.; sugar, 0·17 per cent.; tartaric acid, 0·60 per cent.; acetic acid, 0·18 per cent.; *alcohol*, by weight 9·38 per cent., by volume 11·61 per cent., equal to proof spirit 20·35 per cent. Barolo (red wine): extractives, 2·07 per cent.; mineral matter, 0·24 per cent.; sugar, 0·18 per cent.; tartaric acid, 0·45 per cent.; acetic acid, 0·25 per cent.; alcohol, by weight 10·85 per cent., by volume 13·43 per cent., equal to proof spirit 23·54 per cent. Barolo Tenimento (red wine): extractives, 1·88 per cent.; *mineral matter*, 0·22 per cent.; sugar, 0·13 per cent.; tartaric acid, 0·48 per cent.; acetic acid, 0·24 per cent.; alcohol, by weight 10·85 per cent., by volume 13·43 per cent., equal to proof spirit 23·54 per cent. Valtellina (red wine): extractives, 1·99 per cent.; mineral matter, 0·27 per cent.; sugar, 0·13 per cent.; tartaric acid, 0·41 per cent.; acetic acid, 0·29 per cent.; alcohol, by weight 9·36 per cent., by volume 11·61 per cent., equal to proof spirit 20·35 per cent. Egidio Vitali (sparkling white wine): extractives, 5·99 per cent.; *mineral matter*, 0·20 per cent.; sugar, 3·67 per cent.; tartaric acid, 0·79 per cent.; *acetic acid*, 0·26 per cent.; alcohol, by weight 10·08 per cent., by volume 12·49 per cent., equal to proof spirit 21·89 per cent. Space will only admit of brief comment on these results. The noteworthy features of the white wines are a very small percentage of saccharine constituents, a very light alcoholic strength, and a small percentage of extractive matters. Falerno is a high-class wine of very agreeable character and remarkably light with a very small percentage of sugar. Capri is similar but distinctly sweeter though the sugar amounts to no more than ¾ per cent. Both wines have the excellent delicate flavour and bouquet of the grape. In considering the white wines we may include the sparkling Egidio Vitali which is hardly distinguishable from good champagne. It is fairly dry and of a tone and quality characteristic of champagne. It is very moderate in price and a genuine product of the grape. As will be seen from the analysis the red wines also show results in accordance with genuineness. The Chianti is a dry, *faintly astringent* claret *of good fruity character*. Valtellina is full-bodied and satisfactory to the palate. Barolo, again, is of the Burgundy type, a rich wine full of vinous character and yet of light alcoholic strength. Lastly, we have examined a liqueur called "Eucalyptine" made by the Trappiste Fathers at the Three Fountains, St. Paolo, at Rome. It is a very agreeable liqueur containing the volatile and aromatic constituents of the eucalyptus plant. It is probably digestive and is regarded, though with little foundation we think, as a specific in malaria. These wines are excellent in class and character and undoubtedly pure and genuine products of the grape. Many of them though full-bodied and fruity to the taste are remarkably light in regard to alcoholic strength. They therefore afford a light and agreeable form of stimulant for dietetic purposes.

VARNISHED COATED PILLS.

(MR. S. WAND, HAYMARKET, LEICESTER.)

The special point about some pills which we have received for examination from the above firm is the coating. The pills are highly finished in appearance with a lustrous coating of a varnish-like substance. The pills examined contained sulphate of iron and carbonate of potassium in accordance with Blaud's formula. On placing them in a solution of an acid strength equal to the gastric juice we found that the coating in a few minutes became detached in flakes, the contents thus being soon exposed to the solvent and disintegrating *action of the fluid*. *The unstable iron salt* was found intact, for on examining the solution the iron proved to be entirely in the unoxidised condition. Despite therefore the protective action of the coating against the changes induced by contact with air it yields readily to the action of acid solutions of the nature of gastric juice.

MARSALA WINES.

(INGHAM WHITAKER AND CO. MARSALA AGENCY: STUART N. CORLETT, 11, TRINITY-SQUARE, TOWER-HILL, E.C.)

Two types of Marsala wine have been submitted to us analogous to the "fino" and "oloroso" classes respectively of sherry. The results of analysis were as follows:—Racalia: extractives, 3·68 per cent.; mineral matter, 0·48 per cent.; tartaric acid, 0·67 per cent.; acetic acid, 0·15 per cent.; sugar, 0·73 per cent.; alcohol, by weight 12·69 per cent., by volume 15·68 per cent., equal to proof spirit 27·48 per cent. It is a dry, light, and pleasant wine. Amoroso: extractives, 7·07 per cent.; mineral matter, 0·63 per cent.; tartaric acid, 0·68 per cent.; acetic acid, 0·13 per cent., sugar, 4·8 per cent., alcohol, by weight 16·69 per cent., by volume 20·52 per cent., equal to proof spirit 35·95 *per cent*. As will be seen this wine is more full-bodied than the previous specimen. It is a generous pure wine suitable *for after dinner use*, while Racalia may be considered on account of its relatively light alcoholic strength better adapted for table purposes. Both wines contain an important amount of sulphate of potassium, from which we infer that the grapes have been treated, as in the preparation of sherry, with sulphate of lime. As was pointed out in the report of THE LANCET Analytical Commission on Sherry in THE LANCET of Oct. 29th, 1898, this treatment favours the production of vinous ethers, while no objection can *be reasonably* raised against the method so long as it is kept within certain limits.

FIRST REPORT OF THE ROYAL COMMISSIONERS ON THE METROPOLITAN WATER-SUPPLY.

THE first report of *Her Majesty's Commissioners* appointed to inquire into the subject of the water-supply within the limits of the metropolitan water companies was issued by Her Majesty's Stationery Office last week. It is dated Dec. 20th, 1898. The report deals only with one section of the reference—namely, "whether it is practicable to connect any two or more different systems of supply now administered by the eight metropolitan companies; and, if so, by whom, and in what proportion, should the cost of connecting them be borne, and what are the legal powers necessary to give effect to any such arrangement." The report is divided into eight sections, all of which are important. The chief recommendations of the Commissioners may be given in their own words as expressed in Section 5, namely, that "from the point of view of the consumer ...... inter-communication between the several systems of supply, provided it is carried out to a reasonable extent and on well-considered lines, is not only useful and expedient but necessary." The report is signed by the Chairman and by all the other Commissioners.

The first section of the report gives an account of proposals of the associated metropolitan water companies which were made to the Commissioners at the outset of their inquiry. The companies announced that they had come to the conclusion that inter-communication would be a convenience and stated that they were prepared to promote a Bill in Parliament during the next session which would make it unnecessary for the Commissioners to inquire into the details of any particular scheme and would obviate difficulties due to the existing statutory obligations of the companies and restrictions which are at present placed upon them in regard to the application of their powers to purposes other than those required for their own districts. The counsel for the companies communicated a series of resolutions which had been passed by the directors of the associated companies and which stated their views as to the form which legislation should assume in dealing with the question. These resolutions were as follows:—

1. The companies forthwith to consider what works are required for the above objects and to submit proposals to the Local Government Board for approval. The Local Government Board to be empowered to approve and authorise such works with or without modifications or to authorise and order other works for the like objects. 2. Further works for the above objects may in like manner be from time to time authorised and ordered if and when required. 3. The respective companies to carry out in their respective districts all works so authorised. 4. The Local Government Board to be empowered to authorise the supply of surplus water from the works of any company, to the works of any other company for the time being requiring the same, and the Local Government Board to have power in case of emergency to authorise any of the companies to take more water from the Thames than they are now authorised to take. 5. All expenditure of the respective companies in relation to any such works to be deemed capital expenditure, and for the purpose of meeting such expenditure the Local Government Board to be empowered from time to time to authorise the respective companies to issue an additional amount of debenture stock. 6. No contribution to any sinking fund to be made in respect of capital issued for the foregoing objects. 7. Subject to reasonable contribution by any company taking and utilising by means of the proposed works and powers water which it would not otherwise have been able to take and utilise, the interest on debenture stock applied by the respective companies for the foregoing works to be borne by the eight companies in proportion to their respective water rentals. 8. Any company taking water from another company to pay for such water to the company supplying it at a rate to be agreed upon or fixed by arbitration. 9. A standing arbitrator to be appointed by the eight companies, and failing such appointment by the Local Government Board, and in case the respective companies do not agree amongst themselves, such arbitrator at the end of each year to decide as to the contribution of any company taking and utilising the water rendered available by the posed works and also to decide any matters in difference between the mpanies.

The second section of the report deals with three schemes of intercommunication which were submitted. The first scheme was drawn up by the engineers of the eight metropolitan companies and was dated Oct. 18th, 1897. This scheme was afterwards withdrawn and an amended report of the engineers of the London water companies, dated Oct. 24th, 1898, was substituted for it. The amended report was prepared with special reference to the circumstances of the year and the scheme was made possible by the fact that works belonging to the Southwark and Vauxhall Company at Battersea might be temporarily utilised. The amended report is published as an appendix to the report of the Royal Commissioners. A full account of this scheme has recently appeared in THE LANCET,[1] and it is unnecessary to reproduce it. The third scheme submitted to the Commissioners is described by them as being in effect a portion of Scheme No. 2, and has already been partially carried out and put into operation to meet the emergencies of the East London Company during the past year.

The third section of the report deals with the present capacity of each company to contribute water to any other company which may be in need of it. The Commissioners state that in view of the fact that the utility of connexions between systems of supply must materially depend on the possession by several companies of surplus supplies of water they thought it necessary to examine the engineer of each company on this particular point. The information obtained was briefly as follows:—

The Chelsea Company possess a statutory right to abstract 22,000,000 gallons daily from the Thames. At the present time, however, the company are only able to filter, pump, and pass into their mains 17,000,000 gallons daily. The engineer gave it as his opinion that during the months of June, July, August, and September the company could not spare more than 2,000,000 or 3,000,000 gallons daily. The Commissioners therefore infer that in order to utilise for transfer to any other company the balance of the amount of water which the company has power to abstract from the Thames it would be necessary to provide additional filters, pumping-power, and mains.

In the case of the Grand Junction Company only 1,500,000 gallons daily can be spared. The company has a statutory right to take 24,500,000 gallons. During the summer of 1898 the maximum daily amount taken was 23,500,000 gallons and the average daily abstraction from January to October was 21,000,000 gallons. Additional pumping power and new mains would be required in order to enable the company to contribute to others any considerable amount of water.

The condition of the Kent Company is unique. The wells from which the water is derived are scattered throughout a large district and the water is obtained from the store contained in the chalk formation. As there are a large number of wells the company has not found it needful to provide large mains for the carriage of water as companies which obtain their water wholly or in part from one intake must necessarily do. There is no cause to apprehend sudden or extensive curtailment of water-supply from drought as the reservoir in the chalk tapped by the wells is so large that it is very slowly affected by deficiencies in the rainfall. It follows that the Kent company have no reason to have a large reserve supply either with regard to pumping-power or to storage reservoirs. Hence the company would not be able to transfer much water and there is no probability that a large amount would be wanted by them from other companies. At the present time the company can obtain 25,000,000 gallons daily. The largest amount supplied in 1898 in any one day was 21,000,000 gallons. At the present time the company can supply 2,000,000 gallons to a district outside its own area. For a short time during the year 1898 the company was brought to the limit of its supply in consequence of a breakdown of the pumping engine at Wilmington well and a coincident failure in the well at Orpington. Works are, however, nearly completed which will increase the available water-supply of the company.

The Lambeth Company could at present spare no water. The company have statutory power to abstract from the Thames 24,500,000 gallons each twenty-four hours. The average daily supply of the company in the year 1897 was 23,688,305 gallons, and the rate of supply in September, 1898, was 31,891,317 gallons. The company contend that the statutory limit of abstraction of water from the Thames is not exceeded, and that the surplus water is obtained from the gravel beds adjoining the river, but the Commissioners point out that according to the report of Lord Balfour's Commission abstraction from the gravel is equivalent to abstraction from the river itself.

The West Middlesex Company has a right to abstract 24,500,000 gallons from the Thames in each twenty-four hours. The available surplus for the five months from June to October, 1898, was 1,542,106 gallons. The daily supply of water to customers is increasing yearly at the rate of about 300,000 gallons and the limit of the amount of water which the company could therefore spare is 1,500,000 gallons daily. In order to increase the capacity of the company to supply water it would be necessary to have further statutory powers for taking water; a main would have to be laid from Hampton to Barnes and probably additional pumping power would have to be erected and in the case of any quantity exceeding 5,000,000 gallons a day an additional main would have to be laid from Barnes to Campden Hill.

(To be continued.)

BOARDS OF GUARDIANS AND THE VACCINATION ACT.—The Tiverton Board of Guardians on Jan. 10th decided to petition Parliament to repeal or amend the Vaccination Act of 1898, pointing out that in their union no difficulty had been experienced in enforcing vaccination prior to that Act.—At a meeting of the Okehampton Board of Guardians held on Jan. 8th it was decided to send a petition against the new Vaccination Act to the Local Government Board, both Houses of Parliament, and the Devon County Council.—The Merthyr Tydvil Board of Guardians on Jan. 7th decided to petition against the Vaccination Act.

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[1] THE LANCET, Jan. 7th, 1899, p. 49.

THE LANCET.

LONDON SATURDAY, JANUARY 28, 1899

WE have lately devoted much space to accounts of the Irish medical dispensary system and to speculations on the probable effects of recent legislation on this system and on sanitation in Ireland Our Special Commissioner's report will well repay the study of those who are apt to think that medical grievances have reached their acme in England They have the advantage of being written by one who is not personally interested in the system and who is very familiar with investigations into schemes for exploiting the medical profession in the supposed interest of the humbler sections of society without due reference to the claims of the medical man or to the needs of the sick

To-day we revert to the subject of the Irish dispensary system in connexion with a report on the matter by the Irish Medical Association—a document of extreme interest and of great moderation of statement which cannot fail to bring home to those who are responsible for medical attendance on the poor of Ireland the necessity for an immediate reform of the existing system alike in the interest of the poor and of the medical profession The peculiar economic conditions of Ireland, the area of the country and the large number of the inhabitants devoted to agricultural purposes render some such system—for the present at least—indispensable But it is scarcely credible that the grievances set forth by the Irish Medical Association should continue to exist and their adequate redress should be one of the first fruits of an improved and more liberal measure of local government for Ireland The case for such improvement combines every element that can appeal to a people like the Irish The existing system does not meet the wants of the Irish poor for whom it was originally intended, and the plight of the dispensary medical officer working on sometimes for fifty years till seventy, eighty, or ninety years of age without promotion and without any certainty of pension or superannuation, is pitiable beyond description and thoroughly discreditable to the State We give elsewhere a short abstract of the Report of the Irish Medical Association on the grievances of the service They are discussed under various heads: the abuse of tickets, the small remuneration with no allowance for travelling expenses, the absence of any provision for a break in the monotony of work in the shape of an annual vacation, the absence of provision for superannuation or for earlier retirement under exceptional circumstances, and the absence of all prizes and promotion in the service Tickets are abused by being issued to persons of property and position without system, without inquiry into the gravity of cases, at all hours of the day, and the hapless dispensary medical officer has often to retrace his ground for miles, perhaps over bogs or mountains—all this for an average salary of £108, as he ministers to an average population of 6557 over an average area of 44½ square miles The salary itself scarcely suffices for the necessaries of life and yet all the expenses of travelling in these sparse and remote regions have to be paid out of it Vaccination is, it is true, an extra But it is not remunerative Stations are so distant that often the fees do little more than pay the car hire An instance in the report is given where the dispensary medical officer had to visit twice a quarter 7 stations, vaccinating 100 children a year For this he received the handsome sum of £10, out of which he had to pay £9 16s for his car Let us suppose that this duty was not performed and that the poor of Ireland were left to the tender mercies of small pox What would the misery of that alternative be, and what we may add, would be its cost in a country where crowded homes and "wakes" give such diseases full scope for development? The full hardship to the medical officer under the existing system is strikingly shown in the report under the head of Superannuation It is difficult to say which case is the more pitiable—that of the young medical officer dying—often from infectious disease—at an average age of thirty seven years, or that of the old one longing for the rest that is due to him but afraid to resign in the absence of a pension for work which he may have been at for half a century The report gives instances which will surprise those who read it and which seem to justify the remark of those responsible for it that the severity and danger of dispensary duty are so great that few dispensary medical officers reach a retiring age Our Special Commissioner has dealt powerfully with the right to pensions of men who in a sense more vivid than other Civil Servants devote their whole lives and their whole time to the case of the poor The cases in this report quoted from SIR WILLIAM THOMSON who has done so much to elucidate this subject strikingly enforce the arguments employed by our Commissioner and will we hope, attract attention in the proper quarter

The report concludes with recommendations for the remedy of the evils so well described One evil must be faced resolutely—that of issuing tickets to unfit persons and from unworthy motives But it is equally essential in the interest of the tone and character of the service that the rate of remuneration should be increased and that some elements of reward and promotion should be introduced into a career so monotonous so laborious and so responsible These needed reforms in one of the most important services affecting the welfare of the Irish people will not be accomplished without firmness and persistence and some show of independence on the part of the profession in Ireland The profession must be true to itself The Irish people enjoy the reputation of being chivalrous and generous to medical men We believe this to be their intention They cannot as regards the Poor law Department give adequate fees Much poverty in the past has made that impossible, but they have it now in their own power to deal with some approach to justice with the profession in its public relations and that they will do so we confidently anticipate, and we trust that they will in so doing be encouraged and assisted by the Local Government Board of Ireland.

A LOCAL GOVERNMENT BOARD inquiry of more than usual interest from a public health point of view was held at Havant on Dec. 13th and 23rd, 1898, before Dr. TIMBRELL BULSTRODE and Mr. TULLOCH, M.Inst.C.E. Havant is a small market town in Hampshire, about 8 miles from Portsmouth. At the last census its population was 3474, but since 1891 it has largely increased in size and at the present time it has a rateable value of £13,398. Almost in the centre of the town and about 60 or 70 yards south of the main street are several springs belonging to the Borough of Portsmouth Water Company which supplies Portsmouth (having a population of nearly 200,000), Havant itself, several surrounding villages, garrison forts, and the ships in Portsmouth Harbour. In 1897, owing to complaints from the War Office, Dr. THEODORE THOMSON of the Local Government Board, assisted by Mr. WHITAKER, F.R.S., made a careful examination of the company's springs and their surroundings, and in the report to the Board attention was drawn to the possible risk of pollution of the springs from the insanitary condition of Havant. A copy of this report was sent by the Local Government Board to the Portsmouth Corporation who in turn forwarded it to the water company asking what steps in view of that report were being taken for the protection of the water. The authorities of the company replied that everything in their power had already been done for the protection of the springs and that if any risk of pollution still existed it was due to the Havant urban and rural councils having neglected to perform the duties required of them by the Public Health Acts, and especially in having neglected to provide their districts with a sufficient system of sewerage; they, the water company, therefore requested the Portsmouth Corporation to support them in a petition to the Local Government Board complaining of the default made by the Havant urban and rural district councils, and asking the board to limit a time for the performance by these councils of their duties in respect to the sewerage of their districts. The result was the present inquiry.

It will be at once evident from the foregoing remarks as to Havant that apart altogether from the advantage to the people of Havant itself the maintenance as far as possible of a perfect system of sanitation should have been regarded by the district councils as the most important duty entrusted to their hands and that no effort should have been spared to avoid all risk of pollution to the springs which supplied *not only themselves* but between 200,000 and 300,000 persons in addition. Unfortunately, according to the evidence given by Professor CORFIELD, Mr. BALDWIN LATHAM, Mr. E. C. SMITH, and other experts, this is very far from being the case, and the existing state of affairs is in no sense creditable to those responsible for it. It appears from the evidence given that the only sewers in the district are confined almost exclusively to parts of the four main streets, and that they consist of nine- and six-inch pipes some of which are jointed with clay. These which are but a little distance below the surface of the road were laid over thirty years ago and were not intended to take solid matter; in fact, the houses connected with them are in certain instances provided with a catchment basin to intercept and prevent the solids from gaining access to the sewers; the majority of houses are provided with cesspits nearly all of which are pervious to water and as they are but rarely emptied it is evident that soakage is continuously taking place into the surrounding soil. Four or five streets in the neighbourhood of a couple of schools have no system of drainage or even sinks, the slop water being disposed of by being thrown into the road gutters; in one house the drain runs without any intercepting trap straight into an unventilated cesspool. It is unnecessary to enumerate all the flagrant insanitary conditions described at the inquiry; one more, and perhaps the most glaring, example was a stream which runs through the centre of Havant and which receives in its course the overflow from several cesspools, the manufacturing refuse of a parchment works and a chamois leather manufactory; it then skirts the enclosures of the water company, and, finally, after feeding a watercress bed, discharges into Langstone Harbour, in which, by the way, are a number of oyster beds. All these conditions and numerous others were practically admitted as existing by the Havant Urban Council, the only argument brought forward being that such had always been the *state of affairs* in the past.

It would probably be rather difficult to find a better example of the supineness of small urban and rural sanitary authorities than was exhibited in this town of Havant, a fairly accurate estimation of the value of sanitation in whose eyes may be adduced from an advertisement which appeared not long ago in the local papers for the appointment of a sanitary inspector whose salary was to be £30 a year, and even that munificent sum is £5 more than is paid to the Havant medical officer of health. The insanitary condition of small towns like Havant—and anyone conversant with rural sanitation could name numerous places equally bad—is a very difficult subject to deal with and if the indifference of such towns to sanitation recoiled only on their own heads it would not be such a serious matter; but when, as in this case, thousands of lives are jeopardised by ignorance then we are face to face with a danger which affects the country generally. Nor is it only in regard to the pollution of a water-supply that the danger to the general public occurs; quite as important is the danger to the milk-supply. The majority of the milk-supplies of the large towns are obtained from rural and small urban districts. The sanitary supervision of these districts is vested generally in the farmers and cow-owners in the district, and it is commonly found by rural medical officers of health that it is hopeless to try to get regulations enforced as to the air space in cowsheds, pure water-supply, and cleanliness, when the enforcement of such regulations will entail a certain amount of expenditure by these farmers and cow-keepers. It was hoped that the appointment of county medical officers of health would tend to improve the condition of these rural and small urban districts, and in many counties a marked improvement has taken place consequent upon such appointments. But several county councils, of which Hampshire is one, have not yet appointed a medical officer and thus the district councils are allowed to go on in their own ignorant ashion, meeting every suggestion for improvement with the argument that what was good enough for their fathers is good enough for them and there is no one to try to arouse them to a sense of duty or to point out that the preservation of health is the most important duty entrusted to their hands and should be maintained even at the addition of a penny or twopence in the £ to the rates. Ignorance and indifference are the worst enemies which modern sanitation has to deal with, and methods have yet to be devised to bring home to district councils in many parts of the country the advantages direct and indirect which result from obedience to the laws of health. It is, however, certainly to be hoped that in the matter of the sewerage of Havant the Local Government Board will take steps to force this Council to carry out its long neglected duty, and further that the state of affairs brought to light in this town will induce the County Council of Hampshire to consider the advisability of providing themselves without delay with a competent medical adviser.

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THE clear and identical judgments of Mr. Justice LAWRENCE and Mr. Justice CHANNELL in the important case of HUNTER v. CLARE, the substance of which judgments will be found in a brief report of the case on page 256, leave very little to be desired in the way of exposition. The trouble in this case of dispute about the rightful use of the word "physician" arose—as all the numerous disputes which have been from time to time threshed out in our columns and in those of the lay press about the title of "doctor" have arisen—out of the use of the same words for an academic style and a popular designation. When a man calls himself a "doctor" does he mean simply to convey to the public that he follows the profession of healing and is consequently applying to himself the colloquial title by which members of the profession of healing are known to the public? Or does he mean to arrogate to himself an academic title signifying the possession of a medical degree at a recognised university? In the case of the title of "doctor" we have always maintained that the medical man in his professional relations with the public should be most careful only to give himself the style that belongs to his degrees or his diplomas, holding that for a licentiate or a member of a corporation to call himself "doctor" is wrong. In our columns we have supported this view by words and by example, and although now and again we have received protests, based mainly upon one or two unavoidable inconsistencies, we have reason to believe that the profession as a whole take the view which we have put forward. The case of HUNTER v. CLARE reopens—for the point has been debated before—the same question concerning the style of "physician." Who has a right to call himself a "physician"—anyone qualified to practise "physic," or only the possessors of certain degrees or diplomas? We do not now discuss other issues raised by this litigation The reason of the original prosecution of the late Mr. HUNTER and the management of their share in the matter by the General Medical Council are important enough matters, but they have nothing to do with the subject at present under consideration. It is sufficient to remind our readers that Mr. HUNTER was convicted before a bench of magistrates of Cambridgeshire of having wilfully and falsely pretended to be, and taken and used the name and title of, a physician contrary to Section 40 of the Medical Act, 1858. Mr. HUNTER's alleged offence against the Act consisted in calling himself "physician" upon his billheads, his registrable diploma being the Licence of the Society of Apothecaries dated 1893. Against this conviction the appeal which has just been decided was lodged in the name of Mr. HUNTER who has died since the proceedings in the magistrates' court, but supported by the Society of Apothecaries whose Licentiates are nearly concerned. Mr. Justice LAWRENCE and Mr. Justice CHANNELL concurred in finding that Mr. HUNTER, as a Licentiate of the Society of Apothecaries, was not entitled to call himself a physician, but that in so styling himself he had not wilfully misdescribed his qualification; the conviction, therefore, in their joint opinion must be quashed, but the appellant could not be allowed his costs. This is a serious decision for the Society of Apothecaries, many of whose Licentiates are certainly describing themselves as physicians with no idea of wilful deception, but simply because being duly licensed to practise in medicine as well as in surgery and midwifery they consider that they are correct to assume this designation. Those who so interpret the 40th Section of the Medical Act of 1858 must now consider themselves wrong and must understand that the word "physician" has been used in the Medical Act strictly to mean possession of certain degrees or diplomas and not generally to mean possession of a medical qualification.

Annotations.

"Ne quid nimis."

THE PRINCE OF WALES AND THE MEDICAL PROFESSION.

THE occasion of the delivery by Sir William MacCormac of the Hunterian Oration at the Royal College of Surgeons of England this year will be distinguished by the presence of the Prince of Wales who has also graciously consented, at the President's invitation, to dine with the College the same evening. It is not the first time that the Prince of Wales has honoured the Hunterian orator by attending the delivery of the oration. He was present when Sir James Paget and Mr. Bryant were the orators. Nor is it the first time that His Royal Highness has dined with the College, but there are circumstances that make his presence especially gratifying to the College this year. The Prince of Wales has clearly designed to do honour to the medical profession at a time when he has just received the benefits of surgery, while his host on the occasion will be the surgeon responsible for the line of treatment which was then adopted. By the way, the Royal College of Surgeons of England, remembering that the Prince is a Fellow of the Royal College of Physicians of London, may desire to give him the second qualification necessary to registration and elect him a Fellow of the Royal College of Surgeons of England.

METROPOLITAN WATER BILLS.

SEVERAL bills having reference to the London Water-supply have been deposited at [illegible] Bills Office. [illegible] County [illegible] Amongst

Council, one by the East London Waterworks Company, and one by the Metropolitan Water Companies. The titles of the bills are as follows:—1. "A Bill to authorise the Construction of Aqueducts and Works for the Supply of Water to London and neighbourhood; and for other purposes." The short title of this bill is "London Water (Aqueducts and Works)." 2. "A Bill to authorise the Construction of Reservoirs and Works in Wales for the Supply of Water to London and neighbourhood and for other purposes." The short title of this Bill is "London Water (Welsh Reservoirs and Works)." These two Bills are promoted by the London County Council. 3. "A Bill to authorise the East London Waterworks Company to Construct Additional Storage Reservoirs and other Works and to raise further money and for other purposes." The short title of the Bill is "East London Water." 4. "A Bill for Improving and Facilitating Intercommunication between the Mains and Works of the Metropolitan Water Companies." The short title of the Bill is "Metropolitan Water Companies." It is promoted by all the metropolitan water companies. It will be seen that in each case the chief objects of the Bill are clearly stated in its title. The Metropolitan Water Companies Bill came before the Examiner of Private Bills on Monday, Jan. 23rd, and was passed without opposition. The London Water (Aqueducts and Works) and London Water (Reservoirs and Works) Bills have met with considerable opposition at the Private Bills Office. The Welsh Reservoirs Bill has been opposed by a memorial presented by nearly a hundred signatories and five sittings have already been held by the Examiner of Private Bills to consider the technical bearing of the allegations made against it. In some cases the Examiner found that notice had not been given to owners of property affected by the scheme. In one rather curious case a notice had been served on one John Jones who was not the owner of the property with the possession of which he was credited. He was by no means the only man of that name in the district, and the estimated number of John Joneses varied from three to five. In this case the Examiner thought the wrong gentleman had obtained the notice by misadventure and that the promoters of the Bill were not to blame. Four memorials have been presented against the London Water (Aqueducts and Works) Bill; amongst the memorialists are the Middlesex County Council.

DO WOMEN BEAR ABDOMINAL OPERATIONS BETTER THAN MEN?

THIS is pre-eminently the age of *statistics*. Of late years so much care, ingenuity, and industry have been devoted to the compilation of tabular statements affecting pretty nearly every subject under the sun that averages alone have come to be esteemed as worthy of notice, the salient instances by which public opinion used formerly to be in a great measure formed and guided being now regarded as of no more value than any other of the similar but obscure items in the same category. It would be difficult to find a subject in either medicine or surgery which has not been exposed to the test of figures and especially is this the case with regard to operations. Amongst other points all more or less noteworthy the influence exercised on the results of surgical interference by age, temperament, nationality, latitude, season, the experience of the operator, &c., has been statistically recorded with much advantage, while incidentally these investigations have likewise been by no means barren. For some considerable time the supposition that grave surgical operations were better supported by women *than* by *men* was rather extensively entertained, but it was not until totals had been systematically tabulated that we were afforded reliable grounds for believing that members of the so-called feebler sex could endure the knife with greater advantage than those of the sex which is inured to labour and hardship. The following figures, supplied by *Haberkant* and quoted by Professor Tarnier in a lecture last summer, would certainly seem to afford *primâ-facie* evidence of the exactitude of the proposition. In 117 cases of gastro-enterotomy in the male there was a mortality equal to 54 per cent., while in 96 similar cases in the female it was only equal to 35 per cent., a difference of very nearly one-fifth. In pylorectomy the discrepancy was not quite so prominent, the mortality after 70 operations in the male and 140 in the female being at the rate respectively of 64·3 and 52·8 per cent., an advantage in favour of the latter of only 11·5 per cent. As may be supposed a great many theories have been advanced in explanation of this sexual peculiarity. In the opinion of one profound observer who has actually been bold enough to place his lucubration on record in print women *suffer* less than men after capital abdominal operations because it is especially characteristic of this sex to enjoy this comparative immunity. As Professor Tarnier did not fail to remark, this intelligent explanation reminded him of the well-known character in Molière who so strenuously maintained that opium caused somnolence because it was endowed with soporific properties! According to Dr. Marcel Baudouin, however, it is not impossible to furnish reasons which at all events are plausible for the fact that females support operations better than males. In the first place, pregnancy makes the abdominal parietes thin and flaccid, thus enormously favouring examination and consequently helping to an accurate diagnosis. Secondly, women are more prone to complain than men, especially in connexion with anything that concerns their reproductive systems. In this way their cases come under observation *at an early stage* when surgical interference is less of a *pis aller*. Thirdly, men as a rule hate confinement, whereas *women are accustomed* to an indoor life. Fourthly, women do not smoke or drink and nature consequently can exert her *recuperative qualities* more effectually.

UNFIT HOUSES.

IT will be remembered that Mr. Gilbert's Lord Chancellor used to sing nightly, "The law is the true embodiment of everything that's excellent; it has no single fault or flaw." Be this as it may, the law is constantly providing the most eccentric situations, and one of these has just occurred in the Borough. In 1895 some cottages in Red Cow-alley were closed by order of the magistrates and were dismantled but not pulled down. Dr. Waldo (medical officer of health for St. George-the-Martyr, Southwark) then urged that the old buildings and drains were a source of danger to public health and that the site ought to be cleared. The vestry accordingly made an order for demolition under the Housing of the Working-classes Act, 1890. The owners of the property appealed and the case was heard at the South London Sessions on Jan. 13th. After a long hearing the court decided against the order but agreed to state a case for a higher court. The court held that the houses were uninhabited and consequently not dwelling-houses within the meaning of the Act of 1890. Counsel for the owners of the property said that a dwelling-house was defined as an inhabited building. Counsel for the vestry argued that the word "building" used in Section 33 of the Act meant a closed dwelling-house. Therefore the position would seem to be as follows. To pull down a house under the Housing of the Working-classes Act it must first be closed. Unless somebody, owner or tenant, is enclosed too the building ceases to be a dwelling-house because nobody dwells in it. Then it cannot be demolished under an order for dealing with dwelling-houses. Truly a fit *motif* for a Savoy opera. We shall await the decision of the High Court with interest Possibly, again to quote Mr Gilbert s Chancellor, the court will find that the insertion of a "not" will meet all difficulties If it were required that a house should not be a dwelling house before it could be pulled down matters might come all right

A NEW PROTEID IN MILK

To the three proteids already known to exist in milk—albumin, globulin and casein—a fourth must now be added which has been named by its discoverer, A Wróblewski, "opalisin", from the opalescent appearance of its solutions M Wróblewski has given a description of it in Hoppe Seyler s *Zeitschrift für Chemie* It exists in largest quantity in human milk, a similar if not identical substance is less abundant in the milk of the mare, and there is yet another which, however, only exists in very small quantities, in the milk of the cow Its percentage composition is —C, 45 01, H, 7 31, N, 15 07, P 0 80, S, 4 70, and O 27 11 This new proteid does not reduce Fehling s solution after boiling with hydrochloric acid and it yields no pseudonuclein when digested with pepsin For the solution of one gramme 121 3 c cm of a solution of soda containing 1 part of the alkali to 100 parts of water are required It responds to the biuret, Millon and xanthoproteic tests and also to that of Adamkiewicz It was obtained by the addition of sodium chloride to the fluid remaining after the precipitation of the casein in human milk by hydrochloric acid

THE APPOINTMENT OF COUNTY MEDICAL OFFICERS OF HEALTH

THE subject of the appointment of county medical officers of health bids fair to become a question as perennial and as strenuously fought as that of vaccination Although, however the northern counties have supplied by far the greater number of conscientious objectors they are in many cases ahead of the south in the matter of the appointment of county medical officers of health, and in our issue of Nov 26th we compared Lancashire, Durham, and the West Riding which had appointed county medical officers with counties such as Somerset Devon, and Cornwall which had not We are glad to see that the Wiltshire County Council decided recently to appoint a county medical officer but this very sensible resolution seems to have raised the ire of the district councils and at a meeting of the Salisbury District Rural Council held on Jan 6th a request was considered from the Devizes Rural District Council inviting the concurrence of other district councils to memorialise the county council against the appointment After a great deal of argument it was agreed by 19 votes to 3 to comply with the request of the Devizes Council Mr Robinson is reported as saying that ' what they wanted was a sanitary surveyor not a medical officer full of whims and fads who would not allow them to call their souls their own ' Mr C Drake thought the appointment of a county medical officer would tie their hands If there were any wells which required to be seen to or nuisances to be abated it was the duty of individual councillors to call attention to them and it was rather a slur on them if they did not do this To take another county the motion to appoint a county medical officer for Somersetshire has been defeated, and during the debate it was argued that medical practitioners with incomes of £1000 a year would not submit to being "bossed by an officer only receiving £500 We cannot believe that any district medical officer would be so silly as to say a thing like this nor can we understand how any councillor could be influenced by such an argument There is one simple way out of this difficulty and that is to give the county medical officer £1000 a year instead of £500 There cannot be the least doubt that an administrative county should have a county medical officer, and as we have previously said[1] he must not only be specially qualified but be granted a salary giving him the necessary status of a county official Otherwise he will either not be able to maintain the position necessary to his proper influence or he will use his post as a mere stepping stone to higher things The appointment of a county medical officer in the enjoyment of good salary and *pari passu* debarred from private practice is most valuable He is not exposed to local jealousies, he can act without fear or favour, and his advice is often most valuable both to his own council and to the various district medical officers of health who can and do seek his advice upon matters connected with the sanitary administration of their various districts knowing that his influence may very probably further objects which they have greatly at heart but to carry out which they are practically helpless owing to the clashing of different interests and also because some of the owners of property whose interests are involved may very possibly be the private patients of the said district medical officers Decentralisation is all very well but in sanitary matters as in everything else there must be a central head

A MODIFICATION OF LABORDE S METHOD OF RESUSCITATION IN DEEP ASPHYXIA

AT the meeting of the Académie de Médecine of Paris on July 5th, 1892, Laborde demonstrated his method of resuscitation in asphyxia by rhythmical traction of the tongue He recommended that the tongue should be seized firmly and that traction should be made about 20 times a minute In the *New York Medical Journal* of Dec 10th 1898 Dr W Freudenthal suggests a modification of this method He considers that the effect is due to stimulation of the sensory nerves of the tongue and indirectly of the epiglottis and that a greater effect can be produced by direct irritation of the epiglottis He tested this view in the following case A tuberculous man, aged thirty eight years underwent operation for an abscess in the neck He was in deep narcosis and the incision had just been made when the respiration and heart s action almost simultaneously ceased Attempts at resuscitation were made until the operators were nearly exhausted Then, with the patient s head hanging over the edge of the table and his jaws separated by a gag the index finger was moved to and fro over the epiglottis After a short time he commenced to swallow and then to breathe, only to stop two minutes later A second and a third "tickling had the same effect After the last the pulse and respiration remained normal

THE APOTHECARIES SOCIETY AND THE PHYSICK GARDEN

AT last it would seem after the many rumours which of late years have gained currency to the effect that the Society of Apothecaries were contemplating the sale of the old historic Physick Garden botany being no longer a necessary part of the medical curriculum, that the garden is to practically pass from the control of its former custodians into the hands of the Charity Commissioners This new committee of management will consist of 15 persons nominated by the London Parochial Charities Trustees, the Treasury, the Royal Society, the Society of Apothecaries the Pharmaceutical Society of Great Britain and other public bodies, and the garden is to be maintained for promoting the study of botany with special regard to the requirements of (*a*) general education, (*b*) scientific instruction and research in systematical botany and vegetable physiology, and (*c*) instruction in general pharmacy as it concerns the culture of medicinal plants The scheme also provides for the erection of new offices, lecture rooms, and a physiological laboratory, the appointments of a curator and a head gardener, the establishment of lectures upon botany, and the maintenance of collections of living plants for teaching purposes. The students and professorial staff of the Royal College of Science are to be accorded free admission into the garden, with use of the collections, lecture-rooms, and appliances, so long as the sum of £150, or more, shall be paid in that behalf to the Trustees of London Parochial Charities, as trustees of the remodelled charity. The scheme seems to us one which should be productive of much good, but as our lay contemporary the *Gardeners' Chronicle* points out—

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[1] THE LANCET Nov 26th 1898 p. 1414

> "The medical profession till lately furnished the great majority of our botanists. They took service in India and the colonies, took part in exploring expeditions, and they contributed enormously to our knowledge of the botany of the globe. It is to be feared that the medical men of the future will not be so well equipped for this purpose as their predecessors were, and that systematic and economic botany will suffer proportionately."

We hope, however, that the medical profession will still maintain its interest in Sir Hans Sloane's old legacy and will also continue to receive the encomiums which it has earned in the past with regard to botanical research.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

ON Thursday last, Jan. 19th, a well-attended meeting of the Metropolitan Hospital Sunday Fund was held at the Mansion House when, in the absence of the Lord Mayor, the Earl of Stamford presided. Among those present were Mr. Astley Bloxam, F.R.C.S., Canon Rhodes Bristow, Mr. T. Bryant, F.R.C.S., Mr. A. L. Cohen, Sir Edmund Hay Currie, Mr. George Drummond, Dr. Glover, the Rev. C. H. Grundy, the Right Hon. William Lidderdale, Mr. T. Mackrell, Captain A. Palliser, and Mr. Wakley, F.R.C.S. The solicitor to the Fund, Mr. Cheston, stated with reference to the Vokins bequest that under Mr. William Vokins's will the Fund would benefit to the amount of some £49,000 Consols, the market price of which amounted at the present rate to about £55,000. Sir E. Hay Currie expressed the indebtedness of the Fund to Mr. Cheston for the valuable time he had devoted in connexion with this magnificent legacy and expressed the hope that Mrs. Vokins's death might long be deferred. Viscount Falkland was nominated a member of the council in the room of the late Earl of Strafford, but the deaths of Lord Charles Bruce and Dr. C. J. Hare and the resignation of Canon Eyton still leave vacancies on the council. The general purposes committee were re-elected, and the distribution committee for the year was constituted as follows:—The Lord Mayor, Sir Savile Crossley, Captain Cundy, Mr. Robert Grey, Mr. Herman Hoskier, Mr. Lidderdale, Mr. F. H. Norman, Dr. Sedgwick Saunders, Sir Sydney Waterlow, and Mr. Alfred Willett. Sir E. Hay Currie and Mr. R. B. Martin, M.P., were re-elected honorary secretaries, and Messrs. W. H. Pannell and Co. were appointed honorary auditors.

THE LEBANON HOSPITAL FOR THE INSANE.

ABOUT two years ago Mr. Theophilus Waldmeier inaugurated a movement the object of which was to provide an institution for the reception of insane persons in Syria and Palestine. Up to that time no steps whatever had been taken for the proper care and treatment of these unfortunate persons, many of whom are left to wander about at will whilst others whose condition does not permit them to go free are removed to monasteries, caves, and churches, where they are chained up and badly fed. The chief form of insanity acknowledged in the East is demoniacal possession and therefore the proper persons to treat those afflicted are thought to be the priests who cause the sufferers to go through all sorts of tortures in order, as they say, to "drive the devil away." Mr. Waldmeier having had thirty-eight years' experience amongst the inhabitants of the East, mostly Syrians, is well acquainted with the condition of the people and he relates an instance in which an insane woman was at the request of her relatives treated by a Maronite priest who caused her to be placed on her head whilst two men held her body straight up and she was bound with ropes to a pillar. The priest read the formula of exorcism and burnt incense in a censer, at the same time commanding the demon to depart, and on the woman becoming excited he struck her on the face with a large silver cross until the blood flowed. Eventually she drowned herself in the sea. It was estimated that at least £10,000 would be required for the establishment of a proper asylum in Syria or Palestine and Mr. Waldmeier spent much time in travelling in various Continental countries, in Great Britain, and in America in order to arouse interest in the cause. When about £4500 were collected the committee at Beirut selected a very suitable site of about 30 acres at Asfuriyeh, 3¾ miles from Beirut. The four medical members of the committee, Mr. Brigstocke, Dr. Graham, Dr. Van Dyck, and Dr. Wortabet, have visited it together and have reported favourably upon it. The committee have issued their first annual report and they make an earnest appeal for subscriptions which may be sent either to Sir Richard Tangye, the treasurer, or to Mr. Francis C. Brading, the secretary, at the offices of the committee, 35, Queen Victoria-street, London, E.C. The chairman of the central committee is Dr. R. Percy Smith, late of Bethlem Royal Hospital.

FRANKS *v.* HARGREAVES.

AN action was tried in the Queen's Bench Division before Mr. Justice Mathew in which a carpenter named Franks sued Dr. M. K. Hargreaves of Wimbledon for negligence. The plaintiff sustained a fracture of his right leg for which he was treated by the defendant with the result that five-eighths of an inch of shortening took place. The plaintiff alleged that the defendant had treated him as if one bone alone were broken, whereas two had been broken, and he therefore claimed compensation. The defendant said that he considered that only the tibia was broken. An x ray photograph, however, was put in showing a fracture of both tibia and fibula. One medical man said that in his opinion the treatment had been unsatisfactory, while others gave evidence to the contrary. Mr. Justice Mathew said that medical men were not responsible for errors of judgment if they honestly tried to do their best and the jury found for the defendant. This was an eminently sensible finding. "None of us," to quote the late Master of Trinity, "is infallible, not even the youngest," and medical men are no exception to this rule. Neither, as the householder knows, are carpenters. We do not deny that Dr. Hargreaves made a mistake in diagnosis, but the treatment for a fractured tibia is practically the same as that for a fracture of both bones of the leg. Therefore the defendant was not injured by the wrong diagnosis. A medical man's life is hard enough without, as Mr. Justice Mathew remarked, his being exposed to the prospect of an action at law for every mistake which he may make.

DIPHTHERIA ANTITOXIN AS A PROPHYLACTIC.

IN *Treatment* (Jan. 12th) Dr. F. J. Allan, medical officer of health of the Strand District, narrates a personal experience which illustrates the immunising action of antitoxin in an institution accommodating 60 children varying in age from one and three-quarters to seventeen years. Most of them slept in two large, airy dormitories and the classrooms occupied during the day were also large rooms. Early in February, 1898, one of the children, during a visit to a friend, was exposed to infection from a case of diphtheria, and on returning home on the same day developed the disease herself and communicated it to the girls in the beds on each side of her own. These 3 cases were removed to a hospital and no further cases appeared until a few days after their return home in the beginning of March. By March 23rd 5 cases had occurred in the same dormitory and a bacteriological examination of the throats of the 3 former cases revealed the fact that 2 of them contained typical diphtheria bacilli. Up to April 29th several other children developed the clinical symptoms of diphtheria and several more had inflamed throats without membrane. On April 29th at Dr. Allan's suggestion a protective dose of antitoxin was given all round, and from that day, although the organisms persisted in the throats, there were no more cases of diphtheria or of sore-throat. Of the 60 children, 9 only never gave evidence of infection, 14 were in hospital, leaving 34 children at home in addition to the first 3 returned from hospital. As time went on the organisms in these 37 throats became less and less typical in form, and by June 15th all had disappeared. The immunising dose of antitoxin is from 100 to 300 units, according to age, and the immunity thus produced ordinarily lasts for a period of at least four weeks.

AN IMPERIAL UNIVERSITY FOR INDIA.

WE are informed that owing to the munificent offer of a rich Parsee in Bombay there are great prospects of a scheme for the establishment of an Imperial University for India being completed at an early date. It is not proposed to run counter to any existing university, but the scheme is solely for the development of post-graduate education in the higher scientific and technical branches of learning. The medical and allied sciences are well provided for. Mr. Jamsetjee N. Tata offers a property representing a capital of over £200,000 and calculated to yield a yearly income of nearly £10,000 for the establishment of an Imperial University or a Research Institute in order to supply the want of a higher course of post-graduate instruction in scientific research for the best students of the existing universities. Mr. Tata seems to recognise that the industrial development of the country can be best furthered by training graduates in the higher branches of scientific research. A provincial committee has been formed which has drafted a Bill for the approval of the Government of India. It recently laid its plans before the new Viceroy with the hope of obtaining his support. In the scheme of studies there will be a threefold division—(1) scientific and technological; (2) medical and sanitary; and (3) educational and philosophical. The last of these branches has been included in the scheme in order to give the institution the character of a university. The new institution seeks to have the power of granting degrees and diplomas, and as it proposes to offer a strictly post-graduate course of studies it will not in any way interfere with the working of any of the existing universities. The scheme of the provisional committee involves an expenditure larger than is provided for by Mr. Tata's generous offer. A grant in aid therefore will be asked for from the Government of India. The support of native princes, of local governments, and of the public generally will also be sought. It is estimated that the initial expenditure required will amount to over £100,000 and the annual charge to about £20,000. On this basis, therefore, it is proposed to establish the several departments by degrees and to found subsequently special chairs through public and private munificence. There is already a large fund promised or collected for the Jubilee Health Institute initiated by his Highness the Maharajah of Dholpore and to this some of the native princes have made large contributions. The object of that institute is chiefly bacteriological research and it thus falls within the second of the three departments of studies included in the draft scheme. It is hoped, therefore, that the funds of the two institutes may be consolidated. Besides the Health Institute there are considerable funds raised in the Punjab and Hyderabad (Deccan) for research purposes and for the promotion of higher scientific education. A hope is expressed that those supporting this proposal may also join Mr. Tata's scheme. Altogether, it may be said that not only is the offer a grand one, but that the scheme is a grand one as well as being comprehensive. That the industries of the country will be developed there can be little doubt. Sufficient students for the various branches will also probably be forthcoming as time goes on, for it must be remembered that unless the country develops the capacity for absorbing their services there will be a limited demand for highly trained technical graduates and consequently there must in the long run result a falling off in the number of students. The above scheme of a separate university or institute open to the graduates of all existing uuniversities and fully equipped with the necessary staff of teachers and appliances, such as laboratories, museums, libraries, &c., has already received the concurrence of Lord Sandhurst, the Governor of Bombay. Special legislation by the Supreme Council will have to be undertaken as the power of control and regulation is in the ultimate resort left to the Government of India. The institution will be imperial in character. The only doubt which suggests itself at first thought is that if the larger scheme absorbs the smaller institutes of bacteriological research and of public health or the proposed Pasteur Institute for India the objects of the latter undertakings may suffer in consequence. Popular misapprehension or popular feeling might make itself felt in a large institution governed to a certain extent by the popular will to the detriment of experimental science and bacteriological research. Before the Government of India gives its sanction to the scheme it is to be hoped that it will secure that the medical sciences shall not be hampered by any sentimental opposition to experimental investigations and that the object of the smaller institutions shall be thoroughly secured. At present, however, nothing is settled but we can at least recognise, as Lord Curzon of Kedleston said o receiving a deputation, the great generosity and public spirit which Mr. Tata has shown in contributing so magnificent a sum for the promotion of a great public purpose.

THE PLAGUE IN HYDERABAD STATE: A REPORT BY LIEUTENANT-COLONEL LAWRIE, I.M.S.

AN account has reached us of experiments made on the manner in which the plague may be spread amongst the inhabitants of an infected district. The report is issued by Lieutenant-Colonel E. Lawrie, I.M.S., Residency Surgeon at Hyderabad, is addressed to Mahomed Aziz Mirza, secretary to H. H. the Nizam's Government, Hyderabad, and is dated Sept. 12th, 1898. It contains a brief record of an investigation carried out in the temporary laboratory of the Hyderabad Medical School into the bacteriology of a virus found in the floor dust and scrapings of houses infected with plague in the Dominion of Hyderabad, and its substance has been made public in England by the accounts of Lieutenant-Colonel Lawrie's evidence before the Plague Commission.[1] To the report are appended the diary of the laboratory kept during the inquiry; a note by Surgeon-Captain Johnston, I.M.S.; and two memoranda by Mr. Stevens, Deputy Plague

[1] See THE Jan.

Commissioner, on the methods of detecting the infection of plague in soil and of destroying it by the kiln process of burning. A microbe, closely resembling the plague microbe was discovered in the surface scrapings of the floors of all the infected houses throughout the villages in which cases of plague had occurred. At first the attempt was made to destroy the infection in the floors by burning grass or cowdung and kerosene oil on them, but this plan proved uncertain, inefficient, and dangerous, and ultimately the kiln method of burning the dug-up floors was decided upon. Experiments were also made by which it was desired to prove that the microbe found in the surface of the floors of houses infected with plague was the true plague bacillus. Lieutenant-Colonel Lawrie sums up the practical value of the knowledge that the plague virus lodges in and is disseminated through the floors of houses as follows: 1. The infection of plague can be tracked about by means of the microscope with as much certainty as if it were visible to the naked eye. 2. The value of disinfection can be measured by the same means. 3. The one disinfectant with which uniform results are obtained is fire. When a mud floor is reduced to ashes by the kiln process of burning no trace of the microbe can be discovered in the ashes. 4. By means of the microscope, fire, and boiling, plague can be stamped out with nearly mathematical certainty. 5. Floors and clothing contain the food by which the plague microbe is kept alive; their disinfection by fire and boiling destroys the food-supply of the infection.

JOINT DISEASE IN INFANTS DUE TO OPHTHALMIA NEONATORUM.

IN a paper read before the Royal Medical and Chirurgical Society at the last meeting, held on Jan. 24th, Mr. Clement Lucas directed attention afresh to an original observation which he made in the year 1885, that the purulent ophthalmia of new-born infants was liable in certain instances to produce inflammations of joints similar to the gonorrhœal rheumatism of adults. Mr. Lucas, in the year alluded to, published 3 cases in support of his views and in his first communication, published on Feb. 28th, 1885, he made the following statement: "I am not aware that any connexion between ophthalmia neonatorum and synovitis has ever been observed or described; but there seems no just reason, if, as is generally supposed, the synovitis of gonorrhœa is the result of absorption of morbid products from the urethral mucous membrane, why the conjunctival mucous membrane should not offer an equally favourable absorbing surface. It is scarcely probable that the inflammation of these two joints could be referred to any other cause, and in my own mind there exists no doubt whatever that this is a case of gonorrhœal rheumatism consequent upon absorption from the conjunctival surface." Little attention appears to have been paid to the observation in this country, but abroad it was at once recognised as a form of joint inflammation in infants previously undescribed, and Mr. Lucas was able to found his recent paper upon 23 published cases. The correctness of the clinical observation has been submitted to bacteriological proof. Darier in 1889 found the gonococcus of Neisser in the secretion from the conjunctiva, and Deutschmann in 1890 by aspirating the inflamed knee of an infant three weeks old suffering from purulent ophthalmia was able to show the presence of the gonococcus in the secretion taken from the joint, thus completing the chain of evidence. Mr. Lucas shows that the date at which the joint inflammation most commonly appears is at the end of the second week or during the third week of the ophthalmia. The joints most liable to be affected are the knees and wrists, more especially the left; but any joint may be attacked and in some cases the tendon sheaths have shown signs of inflammation. Although the inflammation may be intense there is little tendency to suppuration and when it occurs Mr. Lucas asks the interesting question as to whether another microbe may not be associating its effects with the gonococcus, for in two cases in which suppuration took place the gonococcus was found to be associated in one instance with the staphylococcus and in another with the streptococcus. In reference to treatment Mr. Lucas suggests that as the infecting source is the conjunctiva the most important thing is rapidly to disinfect this mucous surface and with the cure of the ophthalmia the joint inflammation will generally rapidly subside.

THE ADULTERATION OF FOOD.

THERE is distinct promise of the subject of food adulteration being seriously dealt with in the forthcoming session of Parliament. Such at least is the assurance contained in a speech delivered by the Minister of Agriculture, Mr. Walter Long, at a political meeting in Bath on Jan. 23rd. He said that he believed there was great truth in the statement that there was wholesale adulteration going on in the country and he was to be responsible during the session for the introduction of a Bill which he hoped would reduce adulteration. We trust that the terms of this Bill will be much in line with those of the excellent measure which was introduced in January, 1897, by Mr. Kearley and which was dealt with at some length in a leading article in THE LANCET of March 6th, 1897.

THE DANGER OF LONG HOURS IN DRUGGISTS' SHOPS.

AN agitation has been set on foot in New York to reform the drug business in that city. An organisation entitled the Druggists' League for Shorter Hours of Labour has recently held a meeting at the Judson Memorial Church where the speakers sought to demonstrate that the public should be quite as interested in this matter as the members of the trade. It was even urged that the grand jury should institute an official inquiry concerning the abnormal conditions of a trade conducted to the "detriment of public morals and to the danger of public health." The grand jury has the power to make such representations to the Legislature as the facts may warrant. It is admitted that numerous errors have been made in the compounding of drugs. These blunders are attributed to the exhaustion consequent on prolonged hours of labour. The grievance is so far admitted that a Bill has been introduced in the Albany Legislature by which no one engaged in the making up of medical prescriptions shall be allowed to work more than ten hours on week days except Saturday, when he may work for twelve hours. On Sundays and legal holidays it is proposed to allow six hours' work. The druggists agree that when accidents have occurred and mistakes been committed they were almost always attributable to some overworked person who had perhaps been led to employ morphine, cocaine, and other drugs to stimulate his flagging energies. During the four years ending July, 1898, 13 dispensing assistants in drug stores committed suicide and 7 others attempted but failed to kill themselves. These suicides were the consequence of the physical conditions induced by the taking of drugs to resist the effects of fatigue. In 1897 there were 13 deaths reported as due to the mistakes of druggists and it is probable that many more such deaths have been hushed up. The druggists sometimes pay very large sums to their customers when through some blunder a person is poisoned and thus the cases do not always come before the courts. In the face of these statements it does seem as if the Assistant Druggists' League have a good case. Overwork is always injurious to the person who suffers from the strain, but sometimes it is also dangerous to the public, as in the case of engine-drivers and railway signalmen. On their alertness the safety of the travelling public depends. The same may be said with regard to the dispensers of medicines. The slightest carelessness or inattention may result in fatal consequences and it certainly is to the interest of the public to see that the dispensers of medicaments enjoy sufficient leisure and rest.

TETANUS IN OBSTETRIC CLINICS.

ACCORDING to the *Allgemeine Medicinische Central-Zeitung* the Obstetric and Gynæcological Clinic attached to the Bohemian Medical Faculty of the University of Prague has for some time past been visited by an epidemic of tetanus which has proved fatal to many of the patients and which the most stringent hygienic measures, including the use of antitoxin, have failed to stamp out. Indeed, the epidemic has recently spread to two other obstetric institutions in the city—viz., those connected with the Midwives School and the German University Clinic.

THE OPERATIONS IN UGANDA.

IN the list of appointments and promotions just published in the *London Gazette* in recognition of the services of officers during the recent operations in Uganda we are very glad to notice the names of the following medical officers upon whom the Queen has been graciously pleased to confer the Distinguished Service Order: Captain G. S. McLoughlin, M.B. Durh., and Captain J. D. Ferguson, both of the Royal Army Medical Corps. We heartily congratulate these officers on the distinction which they have won

ACCESSORY THYROID BODIES AT THE BASE OF THE TONGUE.

AT a recent meeting of the Pathological Society of Philadelphia Dr. H. L. Williams presented two cases of this rare anomaly. A woman, aged fifty years, complained of a growth at the base of the tongue which she had had for eight or ten years without much inconvenience but which had begun to enlarge and to produce dyspnœa and difficulty of speech It lay in the median line just above the epiglottis. The growth was about 1¼ in. in width and 1 in in thickness, oval, rounded, and smooth on the surface, except at the top where it was superficially ulcerated and covered with a whitish membrane A small portion was removed and showed microscopically in addition to the signs of inflammation typical thyroid structure containing colloid material In the second case the patient was a young women, aged sixteen years, who had a growth at the base of the tongue for five years which had recently enlarged causing some dysphagia. It was situated in the same position as the growth seen in the first case. On removal by the wire cautery it measured 1⅛ in in length, 1 in in width, and ¾ in. in thickness It was soft and spongy in appearance, surrounded by a fibrous capsule, and showed a delicate reticulum of fine filaments extending through it in all directions The surface was reddish, in some areas whitish, glistening, and resembled the thyroid gland. Microscopically a meshwork of acini separated by a delicate reticulum of connective tissue was seen. The acini were almost invariably dilated and cystic and filled with colloid material The diagnosis of cystic thyroid tissue undergoing colloid degeneration was established Thyroid tissue at the base of the tongue is readily explained embryologically. The middle thryoid area first appears as a ventral outgrowth from the entodermic lining of the primitive pharynx at a position corresponding to the second visceral arch. This outgrowth rapidly elongates and generally loses its attachment with the epithelium of the pharynx, the connexion being represented by a fibrous band (thyroglossal duct) which emerges from the tongue at the foramen cæcum. When thyroid tissue is found in this locality it is formed from embryological remnants at the upper extremity of the thyroglossal duct.

SIR WILLIAM CROOKES AND MICROBES IN THAMES FLOOD WATER.

A DIAGRAM exhibited by Sir William Crookes at the forty-fourth meeting of Lord Llandaff's Water Commission appears to have misled or perplexed the Royal Commissioners. We are aware of the difficulty sometimes experienced by men of science in explaining technical details in such a way as to be comprehensible to lay minds and we should therefore be glad to publish Sir William Crookes's diagram with any explanation of it which he may be pleased to give should he wish to have the matter further elucidated.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.

THE annual subscribers to the College now number, we are informed, 320 and applications for enrolment are coming in The life governors, donors, and guarantors already constitute a considerable body. The organisation of the College has been delayed from various causes, but we understand that it is being pushed forward as rapidly as possible and that no pains will be spared to supply the varied needs of the practitioner. The authorities state that as the work will be continuous throughout the year and the teaching thoroughly practical medical men will be able at any season to perfect their technical skill and to enlarge their professional knowledge The medical superintendent will be happy to receive any medical visitor to the College (22, Chenies-street, W.C.) who may desire further information. The first general meeting of the governors was held on Thursday evening last at 5 P.M.

THE POSITION OF NURSES IN POOR-LAW INFIRMARIES.

AT the meeting of the London and District Poor-law Officers' Association held at Hackney on Jan. 20th Miss E Julian, the Matron of the Croydon Infirmary, read a paper on the Need of Nursing Reform in Workhouse Infirmaries. It is well known that since the Order of the Local Government Board prohibiting pauper nursing in infirmaries the Poor-law authorities have been put to great straits to obtain duly trained and qualified nurses. Miss Julian asks why should this be when everyone knows that there are plenty of trained nurses in want of work. She finds her answer, to use her own words, in "loss of professional status, lack of adequate assistance, the monotonous home life, and uncongenial surroundings." It must be remembered, too, Miss Julian goes on to say, that there is a popular idea to the effect that a workhouse nurse is a woman not sufficiently refined to be employed in a hospital and this idea is not confined to laymen alone. The superintendent nurse has but inadequate assistance and has no voice in the selection of her assistants and also she is practically cut off from society. Compare her position, says Miss Julian, with that of the matron of a provincial hospital. Two remedies have been suggested for this unhappy state of matters—one, that the Poor-law nursing service should be a department of the State as are the Naval, Military, and Indian Nursing Services; the other, that the large Poor-law infirmaries should train nurses for the smaller. This latter suggestion was formulated by Miss Gibson, the matron of the Birmingham Workhouse Infirmary and a paper dealing with the matter from this point of view was read by Miss Wilkie, superintendent of the Halifax Infirmary at the Yorkshire Poor-law Conference held in November, 1898. Miss Wilkie proposed that a nurse should have no salary during the first two years of her training, which is to last four years, but only board, lodging, and washing; and scholarships might be established. Miss Julian apparently advocates a fusion of both schemes, only she thinks that possibly the best thing would be a departmental inquiry into the whole question. It seems to us that most of the difficulties arise from the unfortunate position which the workhouse holds in our social economy. Instead of being, as it ought to be, a place where the really deserving poor can end their days in comfort—a resthouse in short and not a workhouse—it has come to be looked upon as a place of disgrace and discomfort. And this idea is by no means an unreasonable one. Until some method is devised for separating the really deserving poor from the idle, the incompetent, and the loafer, so long will the provision made by the Poor-laws for the poor be considered a thing to be only accepted in the very last emergency. We are far from saying that the tramp, the idler, and the drunkard should be allowed to starve, but there should be some definite line of demarcation between the sheep and the goats, and if this consummation were to be brought about the really deserving poor could be housed in some institution of the bede-house type and the undeserving in a place where they might expiate their sins of omission or commission while those who looked after them would have the same status as the present prison officials, one far superior to that of the workhouse official as constituted nowadays.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.

THE winter session of afternoon lectures and demonstrations by the staff of the hospital will commence on Wednesday next, Feb. 1st. The opening lecture of the session will be delivered by Sir R. Douglas Powell, Bart., M.D. Lond., on that day, at 4 P.M., the subject being "Mitral Stenosis." The lectures are free to all qualified medical practitioners and to students attending the practice of the hospital and every care is taken that an exactly typical set of cases shall be at hand for clinical demonstration. We have sometimes wondered whether medical men quite appreciate the opportunities which are thus afforded them of seeing in the brief space of an hour or so a series of examples of thoracic conditions most difficult occasionally to diagnose and of hearing the signs and symptoms expounded at the same time.

"HERPETIC FEVER."

AT the meeting of the Société Médicale des Hôpitaux on Dec. 16th, 1898, M. L. Rénon related the following curious case. A girl, aged eight years, was suddenly seized with headache, nausea, and cough. On the following day the temperature was 100·4° F. and the pulse was 120; there were some white points on the right tonsil and the pharynx was a little reddened. There were bronchitis and a distinct zone of congestion at the base of each lung. The child complained of intense supraorbital headache. Influenza was diagnosed. On the third day there were numerous herpetic vesicles around the mouth and on the right cheek; there were also some on the point of the tongue, the soft palate, and the right tonsil. The general condition was better, the temperature had fallen to 98·6°, and the signs of bronchitis had disappeared. It was evident that the disease was not influenza but an infection which had attacked the respiratory and digestive organs and terminated in an outbreak of herpes. Herpetic fever was diagnosed. On the fourth day the general condition was very good except for some nausea; fresh vesicles were seen on the left cheek, below the eyebrows, in the mastoid regions, and on the left index finger. The latter consisted of a group of three vesicles on the dorsal aspect of the last phalanx immediately below the nail. This group was very painful. There was no albuminuria. On the sixth day there were two new vesicles on the left cheek and three on the right eyelid. The other vesicles were completely dried up except those on the index finger which were very large and very painful. Recovery was not complete until the twenty-fourth day. The interest of this case lies in the localisation and persistence for twenty-one days of herpetic vesicles on the left index finger. Herpes of the extremities is exceptional. Recently[1] MM. Kahn and Apert have observed it on the back of the hands and wrists, but then the disease terminated in five days.

THE QUALIFICATIONS OF THE PUBLIC ANALYST.

IT is quite time that the qualifications of the analyst appointed under the Food and Drugs Act should be more clearly defined. At present it is vaguely required of him according to the tenth clause of the Act that he shall be a person possessing "competent knowledge, skill, and experience" as an analyst of all articles of food and drugs. So far there is no diploma or degree officially recognised by which to an extent the competency of the candidate could be adjudged and thus those whose business it is to appoint the public analyst have no standard which might serve as a guide in this matter. It is anomalous, we think, that in one of the most important branches of home administra there should be an office requiring skilled work which ay be filled by a person possessing neither diploma nor degree. The Act states that he must be competent, and our local authorities have little means of being assured upon this important point. We have already expressed an opinion that the best test of a person's competency for the post of public analyst is the thoroughly practical examination held by the Institute of Chemistry of Great Britain and Ireland. The duties of the office essentially require a person of practical attainments in regard to the analysis of food, water, and drugs, and the Fellowship of the Institute of Chemistry is granted to those persons who have successfully passed the examination which is almost exclusively practical, involving nearly a week's laboratory work relating to the subjects indicated. The science degrees of our universities obviously can count for little, since a man may possess a science degree without the slightest conception of the practical analysis and composition of food and drugs. We think the matter calls urgently for the attention of the Local Government Board. Their decision should remove considerable ignorance upon this subject and tend to secure the appointment of a body of competent persons whose important duty it is to protect the public against fraud and largely also to watch over the hygienic interests of the community.

THE POOR-LAW MEDICAL OFFICERS' ASSOCIATION.

AT a meeting of the council of the above association held at their rooms, 9, Copthall-avenue, E.C., on Jan. 17th, the subject of a central fund for the payment of Poor-law officers' pensions came under discussion. It was resolved that the present system of dealing with the vexed question of superannuation expenses was likely to lead to serious grievances; that it would inevitably result in preventing the increase of Poor-law officers' salaries under any ordinary circumstances; that it would hinder any man of advanced age, however competent, from obtaining an appointment in the service; and that it would be fatal to the chance of any Poor-law officer obtaining another post after having once lost his office. All this would be avoided, it was thought, by the creation of a central or common fund out of the contributions deducted under the present Act from the salaries of Poor-law officers. There is a good deal to be said in support of the contention of the officials in question. It is, however, a question which affects all branches of the service, and it would be advisable that some common action should be taken in the matter either in the shape of a memorial to the Local Government Board or that the question should be raised in Parliament. It is perhaps only natural that matters which concern medical men personally should occupy a prominent place at such meetings, but a subject which much affects Poor-law medical officers (especially those attached to workhouses and infirmaries) at the present moment is the great difficulty in obtaining properly qualified and adequately trained nurses for these institutions. Possibly it will occupy the attention of this useful association on some future occasion.

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[1] Bulletin Médical, April 10th, 1898, p. 333.

SPEED OF SOUND.

THE last determination of the speed of sound has been made by Mr. A. Leduc, who finds that the rapidity of propagation of sound waves through dry air at 0° C. = 22° F. is 1088 58 ft. per second (*Comptes Rendus*, Dec. 26th, 1898).

THE adjudicators of the Swiney prize at the meeting held in the rooms of the Society of Arts on Jan. 20th awarded the prize for the present year to Dr. J. Dixon Mann, F.R.C.P.Lond., Professor of Forensic Medicine and Toxicology in Owens College, Manchester, for his book on "Forensic Medicine and Toxicology." The prize, in accordance with the will of the testator, is awarded on every fifth aniversary of his death to the author of the best published work on jurisprudence. The prize consists of a silver goblet of the value of £100, with money to the same amount.

AN "Irish Club" has been formed with the object of providing a convenient meeting place in London, affording opportunity for friendly intercourse between Irishmen, visiting the metropolis from Ireland itself, from the provinces, and from abroad. Those of our readers who are qualified by birth or nationality for membership may apply to the honorary secretaries at the Cockburn Hotel, 13, Henrietta-street, Strand, London, W.C. The Irish Club is absolutely non-political and non-sectarian.

SIR WILLIAM MCGREGOR, K.C.M.G., has accepted the post of Governor of Lagos Sir William McGregor is M.D. of the University of Aberdeen and has held various medical appointments in Scotland and the colonies. In 1875 he became chief medical officer of Fiji and in 1877 was appointed Receiver-General of that colony. In 1888 he was made the first Administrator of British New Guinea and in 1895 Lieutenant-Governor of the colony, a post he has held up to the present time.

THE annual dinner of the West London Medico-Chirurgical Society will be held on Wednesday, Feb. 8th, at the Trocadero Restaurant, Piccadilly, W., at 7 for 7.30 P.M. The President, Dr. S. D. Clippingdale, will preside. Professor William Osler, F.R.S., of Baltimore, who has accepted the office of Cavendish Lecturer for 1899 and who was to have been the chief guest at the annual dinner, will be unable to be present.

DR. SIDNEY MARTIN will lecture on Monday evening next, Jan. 30th, at 8.30 P.M., at the rooms of the Royal Medical and Chirurgical Society, 20, Hanover-square, on Tuberculosis. The lecture is the first of three to be delivered under the auspices of the Royal Institute of Public Health, and all interested are invited to attend.

A NEW periodical, to be entitled *International Archives of Leprosy*, is projected. Communications should be made in English, French, or German; if in any other language a summary should be given in one or other of the languages mentioned. Those willing to support this scheme are requested to communicate with Professor Albert Neisser, Breslau, Museumstrasse 11.

A SESSIONAL meeting of the Sanitary Institute will be held at the Parkes Museum on Wednesday, Feb. 8th, at 8 P.M., when a discussion will be opened on the Supply of Water to London by the Welsh Scheme, by Mr. R. E. Middleton, M.I.C.E, M.I.M.E. Tickets for the admission of visitors may be had on application.

THIS (Saturday) afternoon Dr. Sidney Coupland will be presented with a testimonial which has been subscribed for by members of the staff of the Middlesex Hospital and old students of the school. The presentation will take place in the lecture hall at the Medical School at 4 30 P.M.

THE annual meeting of the After-care Association for Poor Persons discharged from Asylums for the Insane will be held at the house of Sir Samuel Wilks, Bart., Grosvenor-street, W., on Monday, Feb. 6th, 1899, at 3 P.M. Sir Samuel Wilks will occupy the chair.

IRISH MEDICAL ASSOCIATION.

REPORT ON THE GRIEVANCES OF THE IRISH POOR-LAW MEDICAL SERVICE.

WE speak in another column of some features of this report which reveals a very sad state of matters. With reference to the abuse of tickets the report says:—

> Tickets are used generally without inquiry, often without necessity, and always without responsibility. Practically they are given to every applicant. Poor-law guardians and other members of dispensary committees have issued tickets for attendance on their own families. Thriving shopkeepers, farmers of a hundred acres of land, persons with many hundreds of pounds on deposit in bank, earners of incomes up to £3 a week, well-to-do pensioners, and such-like people get visiting tickets without question and present them without shame.

Following this are 17 authenticated examples of abuse, of which, perhaps, the most flagrant is No. 17, which is as follows:—

> 17. Brought on a red ticket to meet Drs. —— and ——, who were privately attending the sick person.

A red ticket be it noted implies that attendance must be given at once For a patient to employ two "pay doctors," and to summon his "dispensary doctor" to consult with them is surely the height of impudence. The report proceeds:—

> Among the recipients of dispensary relief there is a large class able to pay moderate fees in proportion to their means who are not only permitted but are even encouraged to pauperise themselves in the matter of medical attendance. They may be counted probably by the 100,000. The Local Government Board should be able to provide a remedy that would prevent this imposture and at the same time protect the *rights* of the sick poor. Visiting tickets are issued improperly for trifling ailments that should be treated in the dispensary. Sometimes tickets are obtained for purposes outside the scope of the Medical Charities Act. Mothers frequently thus relieve themselves of the duty of bringing their children for inspection after vaccination. Tickets are issued to obtain School Board or other certificates. Agents for small insurances cause them to be used for the protection of their companies. But worse than this is the abuse of issuing visiting tickets without necessity at irregular and unreasonable hours By issuing the tickets only at timely hours (except in case of necessity) the sick would be attended more promptly and *satisfactorily* and the doctor would be relieved of much useless and avoidable drudgery. Proper regulations, of course, are necessary, but regulations alone will fail as they have failed in the past.

For instance, the Local Government Board says that persons empowered to issue tickets under the Medical Charities Act cannot delegate the power to others. This regulation is ignored. In one district during the year 1898 1434 tickets were registered. The number issued by members of the committee themselves was 58.

As to travelling expenses :—

> For £108 a year the dispensary doctor is obliged to attend the sick poor among a population averaging 6557 and to travel over an area of 44 square miles. The roads are not made in straight lines and so the area gives no idea of the length of the journeys. In many places the attendance at the dispensary stations alone forms a serious item of expense. The dispensary doctor has himself to pay the travelling expenses which he must necessarily incur in discharging his public duty. This anomaly is the more grievous and unjust because these expenses, which ought to be a public charge, are paid for out of a salary that does not afford even the necessaries of life. It should be strongly urged on the Local Government Board that the want of allowance for the cost of travelling on dispensary duty in rural districts is a grievous injustice to the sick poor as well as to the doctor.

Registration, vaccination, and sanitation are extras, but are very poorly paid and oftentimes car-hire eats up the remuneration. With regard to holidays the report speaks very strongly :—

> There is no service in these countries where the duties of the officers are so laborious and so unceasing as in the Irish dispensary service. There is none so poorly paid. The work of a dispensary doctor is always responsible; it is often laborious even to drudgery; at times it is full of danger to health and life and, worst of all, it is incessant. Anyone of these conditions would entitle him to some period of certain rest and change. But when all these conditions are combined an annual holiday becomes absolutely imperative. "Nature must obey necessity." The dispensary doctor must be prepared for official duty every hour of the day and of the night, on Sundays as on week-days, on holidays as on other days, all the year round. There is no parallel for such a constant strain of continuous duty. The Local Government Board should exercise their power under Secs. 8 and 12 of 14 and 15 Vic. Cap. 68, to secure for all Poor-law medical officers a fixed annual holiday, with paid substitute, as an absolute necessity for the efficient performance of their duty.

The report points out that Civil Servants get six weeks' holiday, and we might add that even bank clerks get a month. A holiday for hard-working people is an essential.

The report goes on to cite cases of nine dispensary medical officers dying at an average age of thirty-seven years. It then considers the case of old men of even ninety years of age dying in harness because the committees would not grant them a pension. The report makes many recommendations, all of which advocate the Local Government Board as the beneficent power. This, we take it, will not make the recommendations of the Association popular with the various dispensary committees.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

The forty-fourth sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Jan. 17th. The Commissioners present were Lord Llandaff (the chairman), the Right Hon. J. W. Mellor, Sir John Dorington, Sir George Barclay Bruce, Mr. de Bock Porter, Mr. Robert Lewis, and Major-General Scott. The witnesses examined were Sir William Crookes and Mr. James Dewar, who are employed by some of the metropolitan water companies, and Sir Edward Frankland, K.C.B., the water analyst to the Local Government Board.

At the commencement of the proceedings Mr. Pember, Q.C., gave a disquisition on the bearing and consequences of the legislation of 1852 and 1871 with regard to the constant supply of water to the metropolitan area and in the course of his remarks he quoted freely from the sections of those Acts which related to the subject.

Sir William Crookes, in reply to the Chairman, said that he had been concerned in the systematic chemical examination of London water since the year 1881. He was paid by some of the metropolitan water companies but he regarded himself as acting in the interests of the water consumers. The witness put in some diagrams.

The Chairman, referring to one of the diagrams, asked the witness whether he wished them "to draw the inference that the best thing is to draw Thames water when it is in flood so as to get only a few microbes."

Mr. Mellor said, "That is what this plan would show," and the witness said, "All the results of our experience show that." In answer to a further question from Sir G. Bruce as to whether there were fewer microbes in flood-water the witness replied that there were.

In answer to Sir George Bruce the witness said that the rain washed down a certain quantity of microbes from the land, but that the amount of impurity which the rain brought into the river was little in comparison with the enormous dilution it produced.

Mr. Pember, referring to the fact that the diagram showed that the number of microbes increased as the flow over Teddington Weir became smaller, suggested that this was due to the greater vitalising power of the sunshine over shallow water and to the generative power of the sun. The witness, however, said that sunlight had a deleterious effect upon microbes.

Sir George Bruce said that the number of microbes was in inverse proportion to the amount of water. Later in his examination the witness said that when there was a small flow over Teddington Weir there were very few microbes.

In answer to Major-General Scott the witness said that the only advantage of allowing water to subside in a reservoir was that the deposit which took place would save the filters, for the filters would become foul more rapidly with turbid water than with clear water and if turbid water were put straight on the filters a larger number of filters would be required to give the same result. The witness admitted that it was not desirable if it could be avoided to take water out of the river in a turbid condition and to put it directly on the filter beds. He was not aware that in the scheme for the Staines reservoirs as a general rule the water was to be taken out of the river and put directly on to the filters.

Major-General Scott pointed out that this was the fact and asked whether there ought not to be some limit to the character of the water which was taken and sent down to the filters, and whether it would not affect the quality of the filtered water, taking into account the fact that filters would more rapidly become foul when turbid water was used. The witness replied that there were rules and a proper amount of supervision was exercised over the water companies and that the rate of filtration was already regulated by Act of Parliament and was 2½ gallons per square foot per hour.

Major-General Scott pointed out that no such statutory regulation as the witness suggested was in force. The witness said that he thought there was such a statutory obligation.

In answer to Major-General Scott the witness said that any quantity of water could be dealt with if there were a sufficient number of filters. He would not admit, however, that if flood water were taken the number of filters necessary would be so enormous that it would be a most uneconomical thing to use water straight from the river.

In answer to the Chairman the witness said that he did not think that any restriction in taking flood water was necessary, but he admitted that in Thames water there were more microbes in flood than when the river was not in flood.

In answer to Sir George Bruce the witness said that during the period of flood there were more microbes per cubic centimetre.

In answer to the Chairman the witness said that it did not matter if there were three or four hundred microbes per cubic centimetre if they were harmless ones. He thought that the whole question of microbes was more a sentimental than a practical question.

Sir George Bruce asked the witness whether unfiltered Thames water could be drunk without doing any harm. The witness replied: "I do not think one would take harm," and he added that he would not object to drink it himself.

Mr. James Dewar, in answer to the Chairman, said that the number of microbes per cubic centimetre in Thames water was increased during times of flood. After every shower of rain in river water there was always a large increase in the number of microbes present. The amount of microbes in the filtered water depended entirely upon the efficiency of filtration.

In answer to Sir John Dorington the witness said that there was no relation between the condition of the river and the bacteriological condition of filtered water.

The Chairman remarked that in that case the diagram which had been shown to them was wholly misleading. The witness would not agree with this criticism and said that in every case the number of microbes present depended on the condition of the filters.

The CHAIRMAN insisted that in so far as the diagram which had been shown to them conveyed any results it conveyed misleading results

Major General SCOTT asked whether there was not this general coincidence—that water containing a greater amount of sediment would contain a greater amount of bacteria, and that if flood water contained a greater number of bacteria than water which was not flood water and flood water contained a greater amount of sediment than water which was not flood water, did it not follow that water which contained a great number of bacteria would generally contain a large amount of sediment? The witness replied that that was not so

Major General SCOTT asked the witness to explain The witness replied that suspended matter was not necessarily objectionable but that, on the contrary, it was advantageous in getting rid of bacteria Suspended matter did good *The settlement of water containing solid matter in suspension was as effective in getting rid of bacteria as filtration*

Major General SCOTT said that that was not the point on which he wished for information, but he wanted to know whether when the Thames was in flood it deposited a considerable amount of sediment, and the witness admitted that this was the case

Major General SCOTT asked if the Thames when in flood did not contain a considerable amount of bacteria, and the witness replied that that was so

Major General SCOTT then asked whether it was not a fact that when the river contained a considerable amount of sediment it also generally contained a considerable number of bacteria The witness then admitted that the facts were as Major General Scott had suggested

Major General SCOTT asked if in the case of water containing a large amount of sediment the filters would not become more quickly choked The witness admitted that this was so, but he would not admit that it therefore followed that if such water was *taken a larger filtration area* would be necessary He admitted, however, that filters would have to be more frequently washed and Major General SCOTT pointed out that whilst the filters were being cleansed they could not be used

In answer to the CHAIRMAN the witness said that under the present system of filtration the number of microbes was generally reduced by the metropolitan companies to less than 100 bacteria per cubic centimetre

The CHAIRMAN asked if there were 20 000 whether they would do any harm The witness replied that it would depend upon their character He had never found any morbific bacteria in the water

The CHAIRMAN asked why if the bacteria were not harmful it mattered if there were 100 or 200 per cubic centimetre and suggested that from the witness's evidence it appeared that all this fuss about bacteria was mere idle talk

Sir EDWARD FRANKLAND, K C B, said that the Local Government Board had very little legal power over the metropolitan water companies and that so far as he knew the Local Government Board had never attempted to place any restraint upon the companies with regard to the taking of water during flood, they had, indeed, no legal right to do so

In answer to Major General SCOTT the witness said that there was no doubt that storage enormously decreased the number of microbes—there was no doubt whatever upon that point

The CHAIRMAN asked whether the character of these microbes was fully established, whether *innocent* microbes might become mischievous, whether they might "go mad as it were" The witness replied that microbes were not subject to such changes The witness said that he thought that every metropolitan company ought to have a sufficient storage capacity for thirty days supply,

In answer to the CHAIRMAN the witness said that he found that as a rule when the Thames was highly charged with microbes the number of them in the filtered water supplied by the companies was larger than it was when the Thames water was *purer and freer from microbes*

The CHAIRMAN handed to the witness the diagram which had been put in by Sir William Crookes and said that it had conveyed to his mind the impression that the average number of microbes in filtered water varied in inverse ratio to the height of the river The witness said that that observation was not in accordance with the results which he had obtained

In answer to Major General SCOTT the witness said that as a rule he had found that the number of microbes was greater in flood water than it was when the river was running at the ordinary level, and he stated that as a general fact in a filtrate of flood water there were more microbes as a rule than there were in a filtrate of water that was not flood water

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The forty fifth sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Jan 23rd The Commissioners present were the Chairman (Lord Llandaff), Sir John Dorington, Mr de Bock Porter Mr Robert Lewis, Mr Cripps, Q C, and Major General Scott

At the commencement of the sitting Mr BALFOUR BROWNE on behalf of the London County Council said that that body would be willing that the witnesses who had appeared before the Commission should assist Colonel Rathborne in the inquiry which he was undertaking and that Sir Alexander Binnie had already been in communication with the new Assistant Commissioner

Mr CHARLES EDWARD GROVES, F R S, the chemist employed by the Thames Conservancy, gave evidence with regard to the chemical condition of the Thames water He gave it as his opinion that flood water could quite safely be taken by the metropolitan water companies from the first hour of flood and during the whole period of flood.

The witness said that there had been a great improvement in the water of the Thames since the Thames Conservancy Act of 1894 had been put into force Since that date the amount of pollution had been diminished to the extent of about two thirds Pollution resulted from the effluents from the sewage farms which entered the river, and if the entrance of sewage effluents could be entirely prevented greater purity would necessarily be secured

In answer to the CHAIRMAN the witness said that when turbid water was allowed to settle slowly the solid matter carried down a great quantity of the organic matter which was present in the water *He thought the fear that the* Thames was excessively polluted by organic matter during periods of flood was groundless In his experience a comparatively slight flood after excessive and continued drought raised the amount of organic matter present by less than one half. When the river was in high flood and overflowed the banks the water became very turbid, but the amount of organic matter suspended and dissolved in it did not become very great and the excess could be removed by storage and filtration The purification of sewage ought always to be effected by passing it over land, because *in that way* pathogenic organisms were destroyed

In answer to Mr BALFOUR BROWNE the witness said that he was not aware that Dr Klein had proved the presence of pathogenic organisms in water supplied to Londoners

Mr HENRY CARRINGTON BOWLES, Governor of the New River Company, in answer to the Chairman said that prior to the year 1852 the company had sold their water to their customers at a charge arranged in each case by agreement The company were under no restriction as to the charges which they were entitled to levy nor were they obliged to give a supply of water Under the terms of the New River Act of 1852 the company were compelled to give a supply at a statutory scale of charges but there was no statutory limit as to the amount of profits which the company might divide. It was the wish of the company to have the most friendly relations with their customers As a matter of fact the company did not charge their customers the full statutory price In the case of the City of London the *charges* were roughly speaking, two thirds only of the amount which they had a right to receive If the undertaking of the New River Company were bought by the London County Council it would be injurious to the City of London

The CHAIRMAN asked the witness why they did not "bleed the City properly" It was suggested that they might charge as much as they were entitled to in the City and make large reductions to their poorer customers in less prosperous parts of the metropolis The witness said that he had no doubt that in the future as in the past the company would be able to perform to the utmost their obligations to the public They had always been prepared for any possible increase in the consumption of water and their policy had been to provide for it in advance *With their* existing arrangements and with those which they had in contemplation provision had already been made which would enable them to have a sufficient supply of water to carry them on his opinion there was ample control over the affairs of the company. Their accounts were examined by the auditor appointed by the Local Government Board; the filtration of their water was watched and reported on by the water examiner to the Local Government Board, and he would have no objection whatever to the water examiner having a statutory right to enter their premises at all times. The witness said that in his opinion the undertakings of the metropolitan water companies were too great to be under one management unless a separate Government department were formed for that purpose.

The CHAIRMAN remarked that Government departments were not always considered to be models of efficient supervision.

The forty-sixth meeting of the Royal Commissioners was held at the Guildhall, Westminster, on Jan. 24th, when the examination of Mr. Bowles was completed and Mr. Searle, the secretary, and Mr. Francis, the engineer to the New River Company, were examined by the Commissioners. The latter was cross-examined at some length by Lord Robert Cecil on behalf of the Hertfordshire County Council.

THE INFLUENCE OF SCHOOLS IN ACCENTUATING THE SPREAD OF CERTAIN INFECTIOUS DISEASES.

II.

IN our last article in THE LANCET of Jan. 21st we briefly traced the growth of knowledge as to the influence of schools in connexion with the diffusion of infectious disease, and we drew attention to the valuable and instructive investigations of Mr. Shirley Murphy with regard to the elementary schools of the metropolis. If, however, schools have had a marked effect in accentuating the incidence of diphtheria and other infectious diseases on certain age groups in London, it is only reasonable to expect that a somewhat similar influence should, if carefully looked for, be detectable elsewhere. But at the threshold of an inquiry into this aspect of the question we are met with the difficulty that in but few places has such care been exercised to discover the facts as has been taken by Mr. Murphy in connexion with the London figures; indeed, some investigators have by a somewhat imperfect conception of the real issues at stake needlessly complicated matters.

If, however, the mortality figures for England and Wales, excluding London, are studied as a whole it is found that they manifest similar changes to those for London taken either alone or in conjunction with those for England and Wales, and as Mr. Murphy points out in the report[1] with which we are now mainly dealing, there has been in each of the populations above referred to a notable increase of relative incidences of diphtheria mortality since 1861–70 upon children at school age, and "so far as the figures antecedent to the period 1861–70 may be trusted, there is observable difference in the behaviour of the figures in the period before and after that period." Mr. Murphy discusses the several factors which may be considered to have had to do with this altered age incidence, such, for instance, as altered nomenclature, natural variations, and varying social conditions of the community, and after fully dealing with each of these questions he arrives at the conclusion that the aggregation of children in schools is the best explanation of the phenomena observed.

When, too, the available notification figures for certain large towns other than London are separately examined as regards diphtheria incidences on age groups Mr. Murphy finds, contrary to the conclusions arrived at by Dr. W. R. Smith, the medical officer of the London School Board, who it appears examined only the "all ages" figures for some of these towns, that there are distinct indications of a fall in the number of notifications during the summer holiday period in the case of Bradford, Birmingham, Nottingham, West Ham, Salford, Sheffield, Bristol, and Manchester. These results have been brought out by grouping the cases in respect to age for three equal period i.e., before holiday influence, during holiday influence, a subsequently to holiday influence. So, too, in reference to figures for Berlin, Mr. Murphy, without of course attachi any great importance to "all ages" figures, shows nev theless that there are even here indications of sch influence; and this in spite of the fact that Dr. Smith, w had regard to the deaths alone, failed to detect any su influence.

There is, however, another side from which this qu tion of school influence may be approached, and th is by a consideration of the operations of each separ school in any given district. It is perfectly obvious to epidemiologist that all schools are not always operating the diffusion of infectious disease, and it is probable that times no school in a given locality may be thus operati This being so the influence for harm of any given schoo schools may be swamped as it were by the negative influe of many other schools. Dr. Niven, the medical officer health of Manchester, has been at pains to consider scarlet fever incidence in relation to each school in district, and in his last annual report he shows very clea how while the majority of schools were, during the per to which the inquiries related, not potent for mischief, oth were very materially so; and his study shows further necessity of approaching the operations of any given sch by a separate examination of each of the departments that school. As Dr. Niven observes at the conclusion of investigations, "the statistics given by Mr. Shirley Murp are clearly supported by this inquiry as to fact and sig ficance."

We do not propose to further discuss the manner in whi Dr. W. R. Smith's arguments are dealt with by Mr. Murp in his report now before us, inasmuch as we noticed Smith's report at some length in our columns at the time its publication in 1896.[2] It seemed to us then, and it see to us still, that much of that report was not altoget relevant to the issue. For instance, Dr. Smith discussed incidence on several counties or groups of counties in Engla and, in consequence of the unequal and varying incidence the disease on the several areas, he was apparently towards his conclusion that schools exercised but an important influence in the spread of diphtheria. For part we have never been able to see the force of this arg ment, and it would seem to us to be equally illogical to in that because the incidence of enteric fever varies ve materially in different counties and parts of England, a that it may at times be difficult to determine the [illegible] thi specifically contaminated water may have had in the spre of the disease that therefore the influence which co taminated water has had in the country as a whole "unimportant" and no very special measures have be needed to check its operations.

The bacillus of enteric fever is, as far as we can ascert or infer, not always present in our public water-suppli and even when it is present it but rarely finds itself und conditions prone to its multiplication. Similarly with resp to diphtheria the bacillus of that disease is not always pres in all our elementary schools and when it *does* obtain en therein the conditions necessary for promoting a high deg of infectivity are doubtless often absent.

In our view, however, the question of polluted wat supplies and of the spread of infectious disease by means elementary schools both need vigorously dealing with, a in our next article we shall discuss the improvements this direction of school regulations.

HUNTER *v.* CLARE.

IN the Queen's Bench Division of the Royal Cou of Justice on Jan. 24th this case was heard before Justice Lawrance and Mr. Justice Channell. Mr. H dane, Q.C., and Mr. Condy appeared for the appellant Mr. Muir Mackenzie for the respondent. The real parties the dispute were the Society of Apothecaries on the hand and the General Medical Council on the other. question at issue was whether a Licentiate of the Soci of Apothecaries was entitled to describe himself as physician. The present case was one stated by

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[1] London County Council Paper: Report by the Medical Officer of Health on Diphtheria and Elementary Schools. No. 399. Price 1*s.*; post free 1*s.* 1½*d.* P. S. King and Son, 9, Bridge-street, Westminster, S.W.

[2] THE LANCET May 23rd, 1896, and June 13th, 1896.

Justices of Cambridge who fined the late Mr. Kingsley Hunter, L.S.A., £5 and 3 guineas costs under Section 40 of the Medical Act of 1858 for "wilfully and falsely pretending to be and taking and using the name and title of physician." The application for the decision of the Queen's Bench Justices was argued at length occupying the whole of the morning sitting of the Court. After lunch the following judgments were delivered:—

Mr. Justice Lawrance said that the real question the court was asked to decide was whether a person having the certificate of the Society of Apothecaries, by virtue of which he is entitled to work both at medicine and surgery as well as an apothecary, is entitled to describe himself as a physician or whether in so doing he contravenes Section 40 of the Medical Act, 1858. In his lordship's judgment such a person was not entitled to describe himself as a physician and if he did so falsely and wilfully the conviction was justifiable. Until 1886 the certificate granted by the Society of Apothecaries gave a qualification to practise as an apothecary only. In that year it was determined that for the future no one should be licensed to practise in any one of the three branches into which the profession is divided unless he had passed qualifying examinations in all. The appellant, whose diploma dated from later than 1886, called himself a "physician." How was that expression used? Was it a mere description of himself as a doctor in the colloquial sense or was it used to imply that he held a medical degree of a university or some qualification entitling him to act as a physician? To any ordinary mind the latter was what the word physician would imply. His lordship came to the conclusion that although there had been misdescription it was not wilfully false and that the conviction must therefore be quashed, but without costs, as the respondent had succeeded upon the main point.

Mr. Justice Channell said that upon the whole he was of the same opinion. He thought, though he was not without doubt, that the appellant had falsely described himself as a physician. Whether that was so or not was the main question upon which the opinion of the Court was desired, for counsel, though nominally appearing for the appellant and respondent, had stated that they were really instructed by the General Medical Council and the Apothecaries' Society who wanted the point settled. The question was whether it is a true description for a Licentiate of the Society of Apothecaries to describe himself as a physician. That depended upon the sense in which the word "physician" was used in Section 40 of the Medical Act, 1858. *If in that section the word meant merely a person duly qualified to practise in physic then the appellant was a physician, because, though it was not so at one time, a Licentiate of the Society of Apothecaries now becomes entitled to practise medicine and surgery. But before the Act of 1858* physician was commonly used as applying to persons in the highest grade of medical practitioners and his lordship thought it was so used in the Act. There was confirmation of that interpretation in several places in the Act. In that sense a Licentiate of the Society of Apothecaries was not, in his opinion, a physician. His lordship then expressed his concurrence with Mr. Justice Lawrance in holding that the appellant had not wilfully misdescribed his qualification and that the conviction must therefore be quashed, though under the circumstances without costs.

THE WORSHIPFUL COMPANY OF PLUMBERS.

The annual dinner of the Plumbers' Company "to meet the Lord Mayor and the Sheriffs of the City of London" was held at Salters' Hall on Wednesday, Jan. 18th, under the presidency of the Master of the Company (Alderman Richard Hind). Amongst the large number of guests present were the Lord Mayors of Leeds, Sheffield, and Belfast, and Mayors of other important provincial towns and many well-known medical officers of health and others interested in sanitation. In responding to the toast of "The Houses of Parliament" Mr. T. W. Russell, M.P., Parliamentary Secretary to the Local Government Board, referred to the Plumbers Registration Bill and said that his department never had two opinions with regard to that Bill as the registration and examination of plumbers seemed to be so necessary and useful. His department had not changed its mind though it could not be said that the Bill was ideally drawn. The Bill had been under discussion for several years past and it had passed the second reading three or four times, but it seemed to him that many who pretended to be interested in the movement only came forward to support it when it reached the report stage. In conclusion, he expressed a sincere hope that the next time the Bill was introduced it would pass the House of Commons. The toast of "The Worshipful Company of Plumbers" was acknowledged by the Master who expressed a hope that the Houses of Parliament would soon confer upon the Plumbers' Company the authority which it wished to possess in the interests of the public health.

It may not on this occasion be out of place to remind our readers that The Lancet owes a debt of gratitude to the Worshipful Company of Plumbers. Some three or four years ago we appointed Special Commissioners to investigate the difficult subject of the "Relative Efficiency and Cost of Plumbers' Work." It occurred to us that if when our work was finished we could be so fortunate as to obtain an authoritative criticism, or at any rate a statement of opinion thereon, from such a high and competent authority as the Company of Plumbers, where the results of our Commissioners' labours were found to be of value that value would be enhanced by the approval of the Company; where they were considered to be faulty our readers would have the benefit of the Company's criticism. In answer to our application to the Company we received a courteous and kind reply acceding to our request, one stipulation only being made, and that a highly proper one—namely, that the "Report of of the Special Committee appointed by the Worshipful Company of Plumbers to offer criticism and suggestions upon the report of an inquiry undertaken by The Lancet into the subject of the 'Relative Efficiency and Cost of Plumbers' Work'" should appear as the work of a Special Committee appointed by the Company for the purpose and not as the work of the Company. The reason for this request was that the Company does not in its corporate capacity take any part in what may be regarded as "trade matters," but directs its efforts entirely to promoting the sound technical instruction of plumbers combined with the necessary arrangements for establishing an adequate system of registration and control over those men who are registered as qualified plumbers.

The Special Committee appointed by the Company went very thoroughly into the vast amount of detail which was contained in our report and must have devoted a very great deal of time and labour to the work. Their report was duly sent to us and published with that of our Special Commission in The Lancet of July 4th, 1896. The criticisms of the Special Committee were on the whole of a favourable nature and to their conclusions and findings of fact they added some valuable observations and suggestions.

We are glad to take this opportunity of tendering to the Worshipful Company of Plumbers in general and to the Special Committee in particular our cordial thanks for their coöperation—a coöperation which is probably unique, for never before surely have a City Company and a medical journal joined hands in the cause of sanitary science.

Several of the City Companies are becoming very useful allies in the cause of public health. The Plumbers' Company, although in their corporate capacity they do not take any part in what may be regarded as trade matters, yet exercise great influence over that branch of commerce which is represented by plumbing, and do all they can to promote the sound technical instruction of plumbers and by some useful form of control such as registration to protect the public from the too common dangers of defective plumbing work. The Grocers' Company afford another instance in the splendid support which they give by their scholarships to scientific research, and other City Companies by their liberal donations to hospital funds and hospitals evince their interest, if not in public health, in the health of the public. Of the fact that the City of London itself recognises the work of, and wishes to honour, those whose life duty it is to guard the health of the public a remarkable illustration was afforded when in May last the Lord Mayor of London invited representative members of the medical profession to dine with him at the Mansion House—the City thus publicly honouring Medicine. We have no hesitation in saying that that honour was appreciated by the medical profession throughout the country.

MEDICAL REFEREES UNDER THE WORKMEN'S COMPENSATION ACT.

The Secretary of State for the Home Department has made the following further appointments of medical referees under the Workmen's Compensation Act, 1897:—

England.

Circuit No. 21.—Dr. Thomas W. Thursfield, Leamington.

Circuit No. 25.—Mr. Alfred Owen Davies, Machynlleth, and Mr. Horace Allan Debenham, Presteign.

Circuit No. 53.—Dr. [illegible] Evans, Lowestoft, in lieu of Mr. C. H. Graham, resigned.

Circuit No. [illegible]—Mr. Robert Bruce, Milford-on-Sea.

Ireland.

County Louth.—Dr. Thomas Joseph Moore, [illegible]

County Londonderry.—Dr. Benjamin [illegible] Browne, resigned.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6875 births and 3979 deaths were registered during the week ending Jan. 21st. The annual rate of mortality in these towns, which had been 19·1 and 18·3 per 1000 in the two preceding weeks, further declined last week to 18·2. In London the rate was 17·2 per 1000, while it averaged 18·8 in the thirty-two provincial towns. The lowest death-rates in these towns were 13·7 in Derby, 13·8 in Burnley, 14·4 in Leicester, and 15·1 in Croydon; the highest rates were 22·4 in Halifax, 22·6 in Preston, 23·0 in Gateshead, and 26·6 in Swansea. The 3979 deaths in these towns included 380 which were referred to the principal zymotic diseases, against 368 and 352 in the two preceding weeks; of these, 104 resulted from whooping-cough, 98 from measles, 68 from diphtheria, 46 from "fever" (principally enteric), 32 from scarlet fever, and 32 from diarrhœa. The lowest death-rates from these diseases were recorded in Oldham, Croydon, Halifax, and Wolverhampton, and the highest rates in West Ham, Preston, Huddersfield, and Nottingham. The greatest mortality from measles occurred in West Ham, Manchester, Huddersfield, Nottingham, and Gateshead; from whooping-cough in Cardiff, Bristol, Swansea, Huddersfield, Nottingham, and Birkenhead; and from "fever" in Bolton, Preston, and Burnley. The mortality from scarlet-fever showed no marked excess in any of the large towns. The 68 deaths from diphtheria included 30 in London, 5 in Liverpool, 4 each in West Ham, Portsmouth, Leicester, and Sheffield, and 3 each in Birmingham and Leeds. No fatal case of small-pox was registered last week in any of the thirty-three large towns, and only 1 small-pox patient was under treatment in the Metropolitan Asylum Hospitals on Saturday last, Jan. 21st. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on the same date was 2749, against 2939, 2912, and 2777 at the end of the three preceding weeks; 249 new cases were admitted during the week, against 225, 291, and 220 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 365 and 363 in the two preceding weeks, further fell to 295 last week, and were as many as 412 below the average. The causes of 61, or 1·5 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Cardiff, Bolton, Oldham, Sheffield, and in nine other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Blackburn, Halifax, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the three preceding weeks from 18·2 to 21·7 per 1000, declined again to 21·3 during the week ending Jan. 21st, but exceeded by 3·1 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 15·5 in Leith and 17·1 in Greenock to 22·4 in Glasgow and 23·5 in Dundee. The 649 deaths in these towns included 34 which were referred to whooping-cough, 20 to diarrhœa, 19 to measles, 9 to diphtheria, 6 to scarlet fever, and 6 to "fever." In all, 94 deaths resulted from these principal zymotic diseases, against 78 and 88 in the two preceding weeks. These 94 deaths were equal to an annual rate of 3·1 per 1000, which was 1·4 above the mean rate last week from the same diseases in the *thirty-three large English towns.* The fatal cases of whooping-cough, which had increased from 14 to 35 in the three
precedingthe mks, were 34 last week, of which 15 occurred
"who it appeai in Edinburgh, and 3 in Dundee. The
for some of theseasles showed a further increase upon those
of a fall in tweeks, and included 9 in Aberdeen and 6
summer holiday pe fatal cases of diphtheria, which had
ham, Nottingham, Win the three preceding weeks, declined
Manchester. These reof which 2 occurred in Glasgow,
ey, and [illegible] Greenock. The 6
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[1] London County Council Paper: Report by the Me
Health on Diphtheria and Elementary Schools. No. 39
post free 1s. 1½d. P. S. King and Son, 9, Bridge-street, West
S.W.

organs in these towns, which had been 123 and 156 in the two preceding weeks, were 153 last week, and exceeded by 14 the number in the corresponding period of last year. The causes of 30, or more than 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 26·7 and 27·1 per 1000 in the two preceding weeks, further rose to 28·6 during the week ending Jan. 21st. During the past four weeks the rate of mortality in the city has averaged 27·5 per 1000, the rate during the same period being 18·2 in London and 22·8 in Edinburgh. The 192 deaths registered in Dublin during the week under notice showed an increase of 10 upon the number in the preceding week, and included 10 which were referred to the principal zymotic diseases, against 13 and 10 in the two preceding weeks; of these, 4 resulted from whooping-cough, 3 from "fever," 1 from diphtheria, 1 from scarlet fever, and 1 from diarrhœa, but not one either from measles or small-pox. These 10 deaths were equal to an annual rate of 1·5 per 1000, the zymotic death-rate during the same period being 1·5 in London and 4·0 in Edinburgh. The fatal cases of whooping-cough, which had been 6 and 3 in the two preceding weeks, rose again to 4 last week. The deaths referred to different forms of "fever," which had been 4 and 1 in the two preceding weeks, rose again to 3 last week. The mortality from scarlet fever corresponded with that accorded in the preceding week, while that from diphtheria showed a decline. The 192 deaths in Dublin last week included 34 of infants under one year of age and 54 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a decline from the numbers recorded in the preceding week. Ten inquest cases and 6 deaths from violence were registered; and 76, or more than a third, of the deaths occurred in public institutions. The causes of 12, or more than 6 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

STAFF SURGEON JOHN BELLHOUSE BOWDEN TRIGGS has been promoted to the rank of Fleet Surgeon in Her Majesty's Fleet.

The following appointment is announced:—Surgeon R. Waterfield to the *Diadem.*

ROYAL ARMY MEDICAL CORPS.

Lieutenant George S. Nickerson is seconded *for service* with the Egyptian Army. *Lieutenant* A. C. Lupton is appointed to the Coldstream Guards as an attached Medical Officer. Captain J. Thomson has embarked for India. Lieutenant H. O. B. Browne-Mason embarks *for service* in India. Brigade-Surgeon H. Harrison, r.p., late A.M.S., is appointed to the Medical Charge of the 49th Regimental District as a retired officer.

INDIA AND THE INDIAN MEDICAL SERVICES.

The services of Captain Hogg, 8th Bengal Cavalry, are placed temporarily at the disposal of the Chief Commissioner of the Central Provinces for employment on plague duty.
Surgeon-General R. Harvey, *C.B.*, D.S.O. (Bengal), is con-
firmed in the appointment of Director-General, Indian
Medical Service, and Sanitary Commissioner with the
Government of India, from Oct. 25th, 1898. Lieutenant-
Colonel A. J. Wilcocks, Civil Surgeon in medical charge
of the Camp of His Honour the Lieutenant-Governor and
Chief Commissioner, is granted furlough, partly in and
partly out of India, for two years, with effect from Jan. 1st,
1899.

VOLUNTEER CORPS.

Rifle: 4th Volunteer Battalion the Queen's (Royal West
Surrey Regiment): Surgeon-Lieutenant E. J. G. Berkley to
be Surgeon-Captain. 4th Volunteer Battalion the East
Surrey Regiment: Charles James Martin to be Surgeon-
Lieutenant. 1st (City of Dundee) Volunteer Battalion the
Black Watch (Royal Highlanders): Surgeon-Lieutenant
J. S. Y. Rogers to be Surgeon-Captain. 13th Middlesex
(Queen's Westminster): Surgeon-Captain A. J. McD. Bentley
resigns his commission.

THE UNITED STATES ARMY AND THE LATE WAR.

Our service contemporary, the *Army and Navy Gazette*, of Jan. 21st in a long article under this heading, reviews the military reports which have been recently published by the Commander-in-Chief, Surgeon-General Sternberg, and General Merritt of the United States Army. The information contained in these reports will be read with much interest, and the lesson to be deduced from the facts being one of wide application and of practical importance we may briefly refer to them. In the first place it was recognised from the beginning, as we always contended would have to be the case, that if the Spanish position in Cuba was to be successfully attacked the United States navy must be mainly relied upon to do the work. As far as her army was concerned America was quite unprepared. Two very serious obstacles had to be avoided—viz., the disembarkation, on the one hand, of any land force in Cuba before the navy had secured complete command of the Cuban waters; and, on the other, the landing of any large military force on the island during the rainy or sickly season, which would, however, give an opportunity for carrying out the necessary naval operations, whilst at the same time admitting of the mobilisation, organisation, training, and equipment of the volunteer army. The advice tendered to the United States Government by their military authorities on these rudimentary points leaves little or nothing to be desired, for it appears to have been very wise and sound. But these very necessary preliminary arrangements were not, or could not be, fulfilled. It was a most fortunate circumstance for the American Government that the opposition, as far as the Spanish navy and army were concerned, proved to be so bad and weak as it turned out to be. As regards the medical history and aspects of the war, with which we are mainly concerned, the report of the Surgeon-General affords a very plain and sufficient explanation of the breakdown of the medical arrangements and of the amount of sickness, suffering, and mortality which followed. The medical staff of the United States army when the war broke out only amounted to 192—an utterly inadequate provision. This rendered a hurried call for the services of a supplementary staff of 650 "contract surgeons" necessary. Now it is no reflection upon the professional merits of these surgeons to say that they were foredoomed to failure. It is simply impossible for the most able and energetic practitioners drawn from civil life but totally ignorant of military methods of procedure to know what is absolutely essential for the elementary requirements of field medical service in the way of army organisation, administration, and hygiene. The great prevalence of avoidable sickness in the various camps was not so much due to the sites for such camps being badly chosen as to the imperfect sanitation that was maintained and the want of training on the part of those who had suddenly to encounter conditions of which they had no previous knowledge and experience. The trained hospital nursing corps, moreover, was quite insufficient; there was, it is alleged, an abundance of medical supplies but it was impossible to find adequate or timely transport for them, so that they might just as well have been a thousand miles away, for not being forthcoming when required it was a case of starvation amidst plenty. Lastly, although this does not exhaust all the factors that might be enumerated, the age limit for recruits had been reduced from twenty-one to eighteen, which is stated to have been found "a fatal misjudgment." The inefficiency from sickness among very young troops on taking the field is always large, especially in such a climate as Cuba It is only right to say that General Merritt's report of the operations in the Philippines, where the difficulties which had to be encountered were much less than in Cuba, is of a much more satisfactory character. There was an abundance of hospital supplies of all kinds, the accommodation provided for the sick and wounded was good and sufficient, and there were, practically speaking, no grounds for complaint.

THE GRENADIER GUARDS AND RIFLE BRIGADE AT KHARTOUM.

Mr. Steevens in his graphically written book, "With Kitchener to Khartum," was, it seems, labouring under a serious misapprehension (which he has since acknowledged and corrected) when he said that the Grenadier Guards and Rifle Brigade had a bad reputation for going sick and sent more men into hospital in a week than the whole of the 1st Brigade. We know now that, according to the official returns, and on the authority of the officer commanding the 2nd British Brigade of the Khartoum Expeditionary Force, such was not the case. As a matter of fact, the Guards, with the exception of the Cameron Highlanders, were the healthiest of the eight battalions in the British Division, and were in all respects a highly efficient corps. As regards the Rifle Brigade, however, there was a good deal of ineffectiveness from fever owing to a large number of the soldiers of that corps having previously served in China and at Singapore and to their subsequent hard work and exposure in the Soudan; but on the day of the battle at Omdurman they turned out, Brigadier-General Lyttelton states, only slightly weaker in strength than the other battalions.

THE BRITISH TROOPS IN CRETE.

Major-General Sir H. C. Chermside, commanding the British troops in Crete, in his despatch concerning the gallant behaviour of the Highland Light Infantry and men of other corps in Candia on the occasion of the difficult and dangerous crisis that occurred in the treacherous attack on the British garrison on Sept. 5th, 1898, includes in the list of names recommended for favourable consideration the following: Royal Army Medical Corps; Lieutenant L. Addams Williams, Lieutenant T. H. M. Clarke (wounded), Private D. Philemon, Private G. H. Lowden, Private G. Leggatt, and Private G. Biddiscombe (wounded).

ARMY MEDICAL SCHOOL, NETLEY.

The seventy-seventh session of the Army Medical School will be brought to a termination on Tuesday, Jan. 31st, when the prizes gained will be distributed by Sir Ralph Knox, K.C.B., Permanent Under Secretary of State for War.

DEATHS IN THE SERVICES.

Fleet Surgeon Godfrey Goodman, R.N. (retired), on the 20th inst., at his residence, Cullompton, Devon.

Correspondence.

"Audi alteram partem."

"THE NEW MIDWIVES BILL."

To the Editors of THE LANCET.

SIRS,—Dr. Alexander McCook Weir calls attention in THE LANCET of last week to your editorial remark in November last that "No Midwives Bill which we have yet seen contains any provision for ensuring that in every case a lying-in woman, however poor, shall have the benefit of qualified medical attendance, and without such provision no Midwives Bill should pass." He goes on to show that in a Bill drawn by him called "A Sick and Obstetric Nurses Bill" there was a clause making it unlawful for any person (male or female) to assume the title of midwife or to practise as such, or to act as a sick and obstetric nurse for gain or otherwise without the supervision and control of a fully qualified and registered medical practitioner, any infringement of this rule to render the person infringing it liable to a fine of £10 or imprisonment for a month.

I wish to point out that in the report of the Committee of the General Medical Council on the Bill of 1898 amongst other *indispensable* requirements in any such measure the following provision was made:—

> That it shall be the *duty of the local sanitary authority of every* district to appoint such registered medical practitioners as are willing *to be so appointed* to whom midwives shall be required to apply for assistance and advice in all cases other than cases of natural labour and *under all circumstances* which may be laid down by the Midwives Board as calling for medical intervention. The local authority shall pay to every registered medical practitioner so consulted a sum of not less than one guinea and not more than two guineas, provided always that when the patient is able to pay for such medical services the local sanitary authority shall recover the fees for the same from the patient or other responsible person by ordinary process of law.

When the report came to be discussed in the General Medical Council this provision was modified as follows:—

> That the regulations under which licensed midwives are required to practise should include provisions securing that the midwife shall im

presents symptoms of difficulty, abnormality, danger, or disease on the part of the mother or of the new-born infant.

The principle of the two clauses is the same, but while that of the Committee provides for the insertion of the requirement with some details expressly in the Bill, that of the Council entrusts the matter to the Midwives Board to be provided for in their regulations, which are to be subject to the approval of the General Medical Council.

The difficulty of inserting any clause involving money payment in private Bills is probably the reason of the non-insertion of such a clause. But I think the omission is to be regretted. I recognise the effort of the promoters to comply with the general views of the General Medical Council and cannot doubt that they do not differ seriously from the Council in wishing to subordinate all midwives' work in cases of "difficulty or abnormality" to the supervision and control of medical practitioners—a *sine qua non*, in my judgment, of all legislation of this sort.

I am, Sirs, your obedient servant,
Highbury-place, Jan. 25th, 1899. JAMES GREY GLOVER.

"OLD AGE AND REJUVENESCENCE."

To the Editors of THE LANCET.

SIRS,—In considering whether it is possible to increase the racial span of life—i.e., the inborn tendency to longevity—we must not forget that it is very doubtful whether characters impressed upon the individual by the environment (= acquired characters) are inherited, and whether therefore the acts of the parent before the conception of the child greatly influence the latter's career. Be this as it may, it seems certain that evolution proceeds essentially by "selection," from which it follows that the most effective way of producing a long-lived race is by allowing only those to marry who belong to long-lived families. In this way the span of human life might be prolonged almost indefinitely. In another place I have given reasons for my belief that the tendency of every living thing is towards immortality, and that senility is brought about by means specially evolved for the purpose, because it is of advantage to a species that its members should not live beyond a certain term, this term differing for different species, so that the processes which make for senility come into operation at different periods for different races. While therefore I hold that the most effective way of evolving a long-lived race of men is by artificial selection, I believe the best way to prolong the life of any given individual, apart from ordinary hygienic means, is to be sought for in the study of those mechanisms by which senility is normally and physiologically induced.

What these mechanisms are cannot at present be stated very definitely. I believe, however, it will be found that changes in the composition of the blood, whether by modification in internal secretions or what not, play an important part in determining senility, and that Brown-Séquard's attempts at rejuvenescing the old were not altogether chimerical. It is certain, again, that the cardio-vascular system takes a large share in inducing senility; the degree of systemic arteriolar resistance helps to set the vital pace, an abnormally high resistance causing premature senility by prematurely wearing out the heart and arteries, and in this way influencing the entire bodily nutrition. If therefore we wish to keep a person young we should keep his blood-pressure low, and I believe that we can in this way stave off senility even more effectually than by the plan adopted by Dr. Althaus.

Dr. Ainslie Hollis seems to hint that delayed marriage tends to delay puberty in the offspring. I doubt whether this is the case. There is, indeed, a popular belief that the children of old men tend to develop prematurely. Such marriages probably do, however, tend to racial longevity. If, for instance (to take an extreme case), every man delayed marriage till forty, the large number of men who die before this age from disease would be prevented from leaving children inheriting a similar tendency to early death. In this connexion I would observe that the custom of monogamy operates injuriously as regards the extension of racial life. Under this system men are for the most part prevented from begetting children after fifty, and thus those who live to be very old do *not as a rule have more* children than those who die at middle age. Under a system of polygamy, however, the former would leave the more numerous progeny, and thus there would be a proportionate increase in the number of children born into the world with an inherited tendency to longevity. I am, Sirs, yours faithfully,
Wimpole-street, W., Jan. 22nd, 1899. HARRY CAMPBELL.

To the Editors of THE LANCET.

SIRS,—In your leading article on my paper on the above subject in THE LANCET of Jan. 21st you state that "he appears to us to forget that obviously the vital energy of the subject, his hereditary clockwork, must still be in fair working order." Allow me to say that I have by no means *forgotten this, as* shown by my remark that "I have come to the conclusion that if old people receive about the sixtieth or sixty-fifth year, *or indeed at any time when age has begun decidedly to tell upon them*, proper and faultlessly carried-out applications of electricity to the brain," then benefit may be expected. Of course, no one would think of applying electricity to an old person *in articulo mortis*, or in such a state of decrepitude that a response to any treatment appears to be unlikely. The treatment must be confined to elderly people who are, although decidedly failing, yet in tolerable condition and therefore likely to be benefited by it.

I am, Sirs, yours faithfully,
JULIUS ALTHAUS, M.D. Berlin.
Queen Anne-street, W., Jan. 21st, 1899.

*_** Dr. Althaus appears to mean that benefit is only to be expected from "faultlessly carried out applications of electricity" when the recuperative powers of the patient may be expected to exert themselves unaided or under other therapeutic measures. This is an intelligible view.—ED. L.

"IRRIGATION IN SUPPURATIVE OTITIS MEDIA."

To the Editors of THE LANCET.

SIRS,—Mr. F. Faulder White's letter on the above subject in THE LANCET of Jan. 21st and his criticism of Dr. Goldstein's views as expressed *in his article upon the* Therapy of Suppurative Otitis Media[1] does not seem to me to accurately place his (Dr. Goldstein's) views upon this important subject before your readers. Mr. White believes that the only efficient plan of cleansing the middle-ear cavity of its purulent contents is by means of warm irrigations, and adds, moreover, that such warm solutions are "invaluable in arousing the dormant vitality of the tissues." Dr. Goldstein, on the other hand, considers that the judicious use of the cotton-armed probe combined with inflation of the middle-ear by means of the Eustachian catheter and suction by means of a Siegle's speculum is sufficient to ensure cleansing of the part without increasing the already sodden condition of the mucosa, which, he says, is only accentuated by the addition of aqueous medication. Dr. Goldstein further remarks that he is referring only to cases of simple suppurative otitis media and not to cases of old-standing disease associated with necrosis and extensive destruction of the soft tissues of the middle-ear and possibly even involvement of the mastoid area. Mr. White, on the other hand, says that he refers to cases "of long standing in which there is no part of the middle-ear that can be said to be uninfected and yet open to the gentle force of an irrigating fluid, but there are certainly grave objections to the frequent use of the probe in the early stages of treatment."

For some considerable time past I have been in the habit of employing in early cases of suppurative otitis media—by which term I mean cases where the pathogenic infection is confined to the soft parts and where no bone lesion is present—the "dry method of treatment" and can claim not only good results but also more speedy recoveries than when solutions and irrigations have been made use of. It has always appeared to me that one of the main causes of the inveterate nature of certain middle-ear suppurations is due not to the virulence of the original pathogenic infection but to the engrafting of a secondary infection from without either from the use of unclean instruments, inefficient antiseptic precautions, or the generally surgically unclean habits of the patient. It has been held that the dry method of treatment should not be used in those cases where the perforation is small for fear of causing secondary retention of secretion, but I hold that no perforation should be allowed to remain in a condition which is judged to be inefficient to secure surgical drainage.

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[1] The Laryngoscope, December 1898.

Such perforations should at once be enlarged by incision and as much fluid as possible removed from the middle ear by mopping, by inflation, and by suction with the pneumatic speculum. It is my custom then to pack the external meatus down to the edges of the perforation with thin strips of gauze—e g., double cyanide, iodoform, chinosol, &c.—and to subsequently place a pad of boric wool over the ear and fix it by means of a bandage or specially constructed silk ear cap. The dry gauze dressing appears in early cases to have a fourfold advantage: (1) in preventing the risks of infection from without; (2) in securing an efficient and continuous drainage; (3) in checking that tendency to the formation of exuberant granulation tissue which I believe is largely fostered by the injudicious use of watery solutions; and (4) in affording physiological rest to the inflamed organ, a most important factor in my opinion and one too often neglected in such cases.

Where bone lesions are present or where involvement of the mastoid area is probable surgical measures appear to me not only justifiable but also necessary. I am willing to admit with Mr. White that "much of the doubt which still remains as to the value of irrigation is due to the fact that it seldom gets a *fair trial*," but at the same time consider that the more effectually we shut off where possible the risks of secondary infection from outside sources, the more effectively do we treat the simple suppurations occurring in the cavity of the middle ear.

I am, Sirs, yours faithfully,

Manchester, Jan. 23rd, 1899. W. MILLIGAN.

BORIC ACID POISONING.

To the Editors of THE LANCET.

SIRS,—In an interesting article published in THE LANCET of Jan. 7th Dr. R. B. Wild has called the attention of the profession to the probably frequent annoyances and the more rare, but still possible, dangers produced by the absorption of boric acid into the system. That boric acid is capable of producing skin eruptions when taken by the mouth in medicinal doses for a varying period is quite certain. During the last year I have seen two well-marked cases. In the first case an old man with stricture took half a drachm of boric acid per day for nine days. On the tenth day he began with an irritable papulo-erythematous rash on the face, trunk, arms, and legs. This continued to get worse in spite of treatment and a week or two later I was asked to see him. I suspected the boric acid and suggested it should be omitted. This was done and the rash rapidly disappeared. On resuming the drug the rash and irritation reappeared in two days. The drug was then finally omitted and the rash quickly faded. The urine contained boric acid for some days after the drug was left off. There was no albuminuria. In the second case a middle aged man suffering from enlarged prostate was treated with 15 gr of boric acid per day, the bladder also being washed out daily with boric lotion. After about fourteen days a papular rash appeared on the arms, legs, and trunk, it was very irritable. I ordered the drug to be left off and the rash quickly improved. On resuming it again the rash reappeared, to once more fade on leaving it off. There was no albuminuria. In another case an eruption was produced by biborate of soda. A young girl suffering from epilepsy was shown to me by my colleague, Dr. Duncan Burgess, with an extensive mixed eruption produced by biborate of soda which she had been taking for three or four months. In this case the hairy scalp showed a seborrhœic scaling with loss of hair and the lower part of the trunk and buttocks were covered with an extensive erythematous, papular, and in part vesicular eruption.

In none of these cases were there any other toxic symptoms, but the eruptions in themselves are sufficiently annoying as they will not respond to any local applications and a proper diagnosis is of great importance. As regards the frequency of eruptions produced by boric acid used as a food preservative I cannot speak from personal experience, but it is certainly possible and I quite agree with Dr. Wild that when a case of extensive anomalous eczema appears without any previous hint of a tendency to such affection and persists in spite of treatment it is well to bear in mind the possibility of a boric acid rash and to examine the urine for the drug. The test is so very easily performed and so delicate that any boric acid present will be immediately detected. If after that boric acid is found it remains only to ascertain how it has been taken in. Such eruptions, however, are not usually of a very serious nature, nor are toxic symptoms as a rule present, and provided the medical attendant is aware of the possibility of the cause the condition is quickly relieved. What I should like to draw attention to in connexion with Dr. Wild's excellent article is that the boric acid ointment and fomentations, although as a rule harmless and valuable, may become sources of boric acid poisoning and at times of serious toxic symptoms. My attention was first called to this subject by being asked to see a boy suffering from an intense "scarlatina-like" rash which had come on five days after a burn of the arm and neck. The burn was not very extensive or severe and the boy was doing very well until this rash appeared. He steadily got worse, the rash became more intense, and symptoms of toxic poisoning set in, ending in coma and death. The case is alluded to by Dr. Wild and was published in THE LANCET of April 11th, 1896. Since that time I have been especially interested in this subject and as a result of several observations I have come to the following conclusions:—1. That boric acid used as a dressing for wounds, either in the form of unguentum boracis or fomentations, is absorbed and may be quickly found in the urine. 2. That where there is an extensive surface, as in burns, it frequently produces a patchy erythematous eruption with or without rise of temperature and with slight toxic symptoms 3. That these quickly disappear when the boric acid is left off. 4 That they may also disappear even if the dressing is continued, toleration of the drug occurring in some cases. 5. That if a sufficiently large amount be absorbed relatively to the individual resistance power very grave symptoms or even death may occur.

When it is remembered that the unguentum boracis contains 10 per cent. and the lotio boracis 5 per cent. of the drug and that it is no uncommon thing for an ounce or more of the ointment to be spread on lint, applied to the absorptive surface, and frequently renewed, it will be seen that a very considerable dose may be absorbed in a very short time. Almost all the serious cases of poisoning from boric acid recorded up to now have been where it has been locally applied to an absorptive surface, and I think we may fairly conclude that whilst taken by the stomach it may produce unpleasant skin eruptions of various kinds, it is when applied in large quantities to an absorptive surface that it is most likely to produce dangerous toxic symptoms which may prove the more dangerous because of the lowered condition of the patient and the increased assiduity in the application of the dressings whereby fresh fuel is added to the fire. As regards the character of the eruption which is present in these cases of extensive poisoning I can only say that it is usually erythematous in small rounded patches or running together into considerable areas and it tends to be marked where there is any pressure, but it is very variable and, in fact, is merely, in my opinion, an "erythematous response" which might equally well be called forth by other toxic substances, whether in the form of drug or other toxin.

I am afraid it is too much to ask you to insert any further account of my cases in a letter of this kind, which to be of any service would be of considerable length. Therefore thanking you in anticipation,

I remain, Sirs, yours faithfully,

Sheffield, Jan. 10th, 1899. ARTHUR HALL.

THE MALARIAL PARASITE IN RHODESIA.

To the Editors of THE LANCET.

SIRS,—Mr. Dunley-Owen[1] has published two papers embodying some observations on the malaria parasite as found in Rhodesia. His results are most remarkable and in many points quite at variance with those obtained by the recognised authorities on the subject. As his remarks have hitherto been allowed to go unchallenged we think that it might be well to draw attention to these discrepancies, in the hope that statements so subversive of what is generally believed may be either withdrawn as mistakes or substantiated by full, adequate, and detailed evidence.

In the first place, it is to be noted that he admits that his previous knowledge of the subject was gleaned from "Fagge's Medicine." He appears to be unaware of the writings of Laveran, Marchiafava, Celli, Bignami, Mannaberg, Osler, or Thayer and Hewitson; nor is he aware that malaria is endemic in Italy and has been largely if not chiefly studied there, for he says, "In Europe, for instance, it (i.e., malaria) is scarcely ever met with, and probably only in those who have previously been in the tropics." In the second place, he never mentions how his specimens were prepared, whether they were examined stained or fresh, nor what precaution he took to avoid errors of observation—points of considerable importance when dealing with so-called crescents and pigmented bodies in the soil. Thirdly, he appears to argue that all diseases due to hæmatozoa are the same and for purposes of observation are interchangeable, for he speaks of the malarial bacillus as present in man suffering from malaria and in horses suffering from "horse sickness." It is well known that there is a number of hæmatozoa, the most familiar being halteridium and proteosoma in birds and pyrosoma in cattle, giving rise to diseases in animals quite distinct from malaria in man. As hitherto all attempts to communicate malaria to such of the lower animals as rats, rabbits, &c., have failed, we are loth to accept the transmission of human malaria to rats through the "blind fly."

Again, he states in his second paper that he was mistaken in the bacilli, and that he finds that they were really crescents. Reading his observations in the light of this admission we think that it will be agreed that he is certainly the first observer who has been fortunate enough to see the crescents multiply in the blood; and we think *he alone has observed* the red discs burst and give rise to crowds of crescents. Next, the sporules of which he has seen so many we would *suggest* were blood-platelets; this mistake appears to be very commonly made by those who have not had much experience in blood examination. We are not aware that any other observers have described "blackened corpuscles" in the blood of malaria patients, and it is generally admitted that the leucocytes are normal in number or decreased, and not increased as Mr. Dunley-Owen states.

Lastly, it is difficult to reconcile these two contradictory statements—viz.: (1) "I have made cultivations of the malarial bacillus obtained at this time of the day (i.e. between one hour before and one hour after sunrise) from the grass and the soil but only to the height of four feet from the ground"; and (2) "This led me to inquire what there was in the herbage or the soil which could produce 'horse sickness' and I made microscopical examinations of dew, grass, and soil, but without any discovery." On the whole we feel inclined to agree with Dr. Manson (in spite of the protestations of Mr. Dunley-Owen) that "hitherto all attempts to cultivate the parasite...... have failed."

We are, Sirs, yours faithfully,
ROBERT HOWARD.
WALTER C. C. PAKES.
Guy's Hospital, Jan. 17th, 1899.

REGINA v. REICHARDT.

To the Editors of THE LANCET.

SIRS,—The case of Regina *v.* Reichardt being now closed may I write to second the appeal made in your columns on August 6th, 1898, by Dr. Savage for funds to meet the very heavy expenses which have been incurred by Dr. Reichardt in his defence? I need hardly say that the case is one of the greatest importance both to the medical profession and the public at large. The Commissioners in Lunacy sought to convict Dr. Reichardt of the misdemeanour of taking a lunatic into his house without certificates, notwithstanding their knowledge of the fact that Mr. E. C. Kingsford, Dr. Savage, and I, each of us, had separately expressed the opinion that the patient was not one that ought to be certified. The action of the Commissioners is therefore virtually an attempt to compel medical men to treat all cases of unsoundness of mind by Act of Parliament by placing them under certificates. If the prosecution had been successful in this and in a prior case no one would have been any longer able to take any case of temporary unsoundness of mind into his house except as a certified lunatic. A more cruel, radically unsound, and preposterous doctrine it is impossible to conceive. *With the temporarily* deranged recovered of their madness and prosecuting their medical advisers because of their certification on the one hand, and with the Commissioners prosecuting us on the other hand because of the absence of certificates, God help the unsound of mind who will yet be needing treatment.

Fortunately for those who become temporarily deranged and for those who take them into their houses to treat them—for most of these cases cannot well be treated at home—both Mr. C. D. Sherrard's and Dr. Reichardt's prosecution have proved unsuccessful. But the defendant is saddled with heavy expenses amounting to £700 because he did his duty and the best for the patient. I venture to hope that the medical profession will see that in defending himself he was defending the right of everyone of us to do the best that can be done for every individual patient according to his needs, even though Acts of Parliament when administered according to their letter rather than by their intention may seem to indicate otherwise.

I am, Sirs, yours faithfully,
Jan. 24th, 1899. JAMES F. GOODHART.

THE METROPOLITAN WATER-SUPPLY.

To the Editors of THE LANCET.

SIRS,—In reply to the question raised in your article on this subject in your impression of the 21st inst. I have to *say* that by the *unqualified* term "efficient filtration" I *mean the filtration contemplated by the Act of Parliament* passed in 1852—viz., freedom from opalescence or particles in suspension visible to the naked eye in ordinary light. This is very different from efficient *bacterial* filtration, by which I mean that the water does not contain more than 100 microbes, or their *spores*, per cubic centimetre capable of development on a gelatine-peptone plate. This is a kind of filtration not recognised by Parliament, and the subject is not yet quite ripe for legislation.

I am, Sirs, yours faithfully,
The Yews, Reigate, Jan. 25th, 1899. E. FRANKLAND.

SUSTAINING FARE FOR THE CREWS OF LIFEBOATS.

To the Editors of THE LANCET.

SIRS,—When I became intimately associated with the direction and management of our magnificent lifeboat service I was surprised to find *that no* provision existed for the sustenance of the crews when on cold prolonged *service at sea. I accordingly designed a waterproof tin to* fit the jacket pocket and had it filled with the best chocolate. It was my original intention only to have *them supplied to our local crew*, but really I think every man should have the opportunity to get one who goes to sea in the various lifeboats. Messrs. Cadbury replied to *my queries by most generously* offering to provide tins similar to my design and filled with chocolate to every lifeboat man in the United Kingdom. I accordingly wrote to the secretary of the Royal National Lifeboat Institution, Mr. Dibdin, who warmly acknowledged my scheme and the great offer of Messrs. Cadbury and the matter is before the committee. But the acceptance of it is quite another matter. I believe if you realise *the necessity* of the matter you will help to push it on. Perhaps also you might call for opinions as to the best sort of "emergency ration" for such cold and trying work. *The stuff need not* be used if the service be a short one and so may lie in store.

I am, Sirs, yours faithfully,
C. L. FRASER, F.R.C.S. Edin., &c.
Berwick-on-Tweed, Jan. 23rd, 1899.

"A CASE OF CHRONIC ONE-SIDED PULMONARY ATELECTASIS."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Jan. 14th an account is given
of a case of chronic one-*sided pulmonary* atelectasis, such
condition being a rare one. A similar case in which the
necropsy revealed the condition was under the care of Dr.
Curnow in King's College Hospital last September or October.
The patient was a middle-aged man who was admitted
suffering from pneumonia and having been a heavy drinker
died from exhaustion. On admission it was found that the
impulse of the heart was situated in the left mid-*axillary* line,
whilst the normal area of cardiac dulness was resonant *on*

percussion. There was apparently nothing to account for this condition. The necropsy revealed the fact that the left lung was simply a small mass in a semi-atelectatic condition, whilst the right lung (upper lobe) had expanded in a compensatory manner and filled the greater part of the left chest, thus obliterating the normal area of cardiac dulness. There was no external deformity of the chest. The organs were shown by Dr. Norman Dalton at a meeting of the Pathological Society of London and a discussion followed as to whether *the condition was congenital or acquired. Dr. Curnow* considered that the left lung had been pathologically destroyed early in life, probably during fœtal life.

I am, Sirs, yours faithfully,
THOS H. GARDNER,
Resident Medical Officer, The Royal Hospital for Diseases of the Chest, City-road, E C.
Jan. 19th, 1899

ANÆSTHETISTS' FEES UNDER THE POOR-LAW.

To the Editors of THE LANCET.

SIRS,—Will you kindly reply in your next issue whether the Local Government Board have ever issued an order sanctioning a fee for the administration of chloroform in operations done in the workhouse or district to medical officers under contract? I have some recollection of having seen some such announcement.

I am, Sirs, yours faithfully,
Jan 22nd, 1899. M D.

⁂ The Local Government Board have issued no order on the subject of fees for the administration of chloroform in operations performed in the workhouse or the parish, but it is not the practice of the Board to raise any objection to the payment of a reasonable fee for assistance "at an operation" (which is the official term for the administration of an anæsthetic), rendered by an outside practitioner to the medical officer of a district or workhouse in the performance of operations of difficulty or danger. It is their rule, however, to call for a short report upon the case from the medical officer before sanctioning the fee. This procedure is of fairly frequent occurrence in large parishes and institutions, and no difficulty is ever raised. Indeed, the Board would probably hold the medical officer responsible, and blameworthy if anything went wrong, if he were to attempt to perform an operation of any importance without adequate assistance of this kind. In institutions where there is an assistant medical officer he is supposed to render such aid, but even in these circumstances, where the operation is one of much difficulty and an assistant is required in addition to the chloroformist, a fee has been sanctioned. The sum approved varies from 1 to 3 guineas, according to the magnitude and duration of the operation.—ED. L.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Progress of the Plague —The Plague Commission

THE progress of the plague in India during the past week was on the whole satisfactory. The new cases reported for the Bombay Presidency are only 2636, as against 3196 the week previously. The deaths have been 2106 against 2576 In Bombay city, however, the returns are unfavourable There was a considerable rise both in the reported plague attacks and mortality. The disease seems to be increasing in virulency, for with 151 cases reported there were 146 deaths, while the previous week recorded 147 cases and 113 deaths. The total mortality was 894, against 742 in the previous week, a rise of 152. The quinquennial weekly average is about 500 The rise in the Dharwar and Bijapur districts was more than counterbalanced by a fall elsewhere.

In the Madras Presidency the situation remained unchanged, but a great improvement took place both in the military and civil stations of Bangalore There was a fall in the number of deaths in the Mysore territory from 416 to 241. The position in the Wardha district central provinces has also improved. On the other hand, plague seems increasing slightly in Broach and in the villages surrounding Poona. No fresh cases have occurred at Rahon in the Punjab, but heavy rain has caused great discomfort to the unfortunate people who have been turned out of their houses, and the huts in the plague camp have been swamped. The greater part of the town has been evacuated, and the remaining inhabitants will soon be cleared out. Karachi records one case and two deaths, *Poona three cases and two deaths.*

The Plague Commission has been sitting in Calcutta, as I said in my last letter. Dr. Justice referred to the 3 cases of plague occurring among the peons of the High Court, in which he attributed the infection to dead rats, many being seen in the neighbourhood, as there was no connexion between the peons and other infected persons. Dr. Bose (native practitioner) thought that the plague was brought from Bombay, but there was no specific instance of men coming from Bombay with plague; it was simply suspicion. A heavy mortality amongst rats was noticed in March, and April and the plague first appeared in Calcutta in April. He thought bubonic cases were infectious. The mortality returns were not satisfactory and plague deaths were registered under other names. Friends registered deaths and there was no system of death certificates. Dr. Hossack thought that there was a factor in the environment of Calcutta inimical to the spread of plague in epidemic form, but what it was he did not know. He said the bustis of Calcutta were in a very insanitary condition. The disinfecting measures adopted were greatly insufficient. He said that the native doctors with Indian degrees rendered no assistance, but resisted the efforts of the officials and helped to conceal cases. Mr. J. N. Banerjee had seen cases of fever with glandular enlargement, but the symptoms were little like the cases of plague which he had attended. There was great difficulty in getting information of cases.

On Jan 3rd Surgeon General Harvey, Director-General of the Indian Medical Department, was examined. So far as he could see the case for inoculation seemed absolutely clear. Though not absolutely preventative it was so to a very considerable degree. Experiments of which he had knowledge were such as to exclude the possibility of error. He did not think people would consent to be inoculated on a large scale before an outbreak. They could not rely entirely on inoculation for coping with an outbreak. It was very valuable but could never be any but an auxiliary to sanitary measures. *Looking at the importance of sanitation he thought it would* be a good thing if they had in India a sufficient number of health officers with good qualifications whose time was actually given entirely *to sanitary work. He* had already recommended this and he expressed the hope that the time would come when every district had its sanitary medical officer. The chief obstacle was the expense involved. Calculation would show that if India spent on sanitation as much as England was supposed to do we should have to spend in proportion to the population £53,000,000 sterling, whereas the actual revenue was only £36,000,000.

On Jan 4th the Plague Commission continued its sittings. Mr. Ferris had no doubt of the existence of plague in the city. Dr Wallace had seen cases diagnosed as plague by others. He disagreed with the diagnoses. He was of opinion that the cases recorded as plague were those of malarial fever of a malignant type.

Mr. Greesbach, Director of the Geological Survey, pointed out that the largest number of plague cases had occurred on the soil covering the Deccan trap and crystalline rocks and only a very small number on the great alluvial belt stretching from the Indian Ocean to the Bay of Bengal. The former formation roughly coincided with the distribution of laterite deposits. On the trap and crystalline rocks 150,929 deaths had been recorded, while on the Indus-Ganges alluvium only 12,936 deaths had occurred, or only 7 88 per cent. His explanation of this apparently striking fact was that the exodus of scared population spread themselves fan-like over the Deccan trap from Bombay.

On the conclusion of their work in Calcutta the Plague Commission will proceed to Agra. They will then go on to Lahore and are timed to arrive in Karachi by Jan. 23rd. Afterwards they will proceed to Cutch Maudvie, Ahmedabad, Baroda, Broach, Surat, and Damaun, reaching Bombay on Feb. 12th, where they will take evidence again until Feb. 20th. The Commission will subsequently go to Poona, Satara, Belgaum, Sholapur, and Ahmednugar. They will embark for F

Mr Jamset

Imperial University in Bombay with the special design to promote higher education in science and scientific and mechanical technology.

Jan. 7th.

PROGRESS IN SANITATION AT DUBLIN.

(FROM OUR SPECIAL COMMISSIONER.)

DUBLIN has not borne a good repute when judged from the sanitary point of view. Old buildings, overcrowded and dirty, bad drainage, and a foul river, have all told their tale in high death-rates and frequent outbreaks of epidemic disease. But it is satisfactory to note that there are signs of improvement. Thus in the five years 1876–1880 the average death-rate of Dublin was 29·5. During the following five years, ending 1885, the average fell to 27·4, and from 1891 to 1895 there was a further decrease to 26·1. In 1897 there was an epidemic of measles and the zymotic death-rate then amounted to 4·5, though the zymotic death-rate, which during the ten years ending 1885 amounted to an annual average of 4·1, had in the following ten years fallen to an annual average of 2·62. The statistics therefore are distinctly favourable in so far as they show an improvement but the death-rate is still high. The fact is that some progress has been accomplished but a great deal still remains to be done. Thus, since the year 1879 the Public Health Department has been engaged in substituting water-closets for the old privies or cesspits. It was no easy matter to effect such a change; nevertheless it may be said that now very few cesspits remain. On the other hand, the closets are often in a foul condition and it is very difficult to induce the lower-class inhabitants to keep them clean. To meet this obstacle the Public Health Act provides that when two or more houses have a closet in common the inhabitants may be collectively prosecuted for not keeping it in proper order. Unfortunately this does not apply to single houses inhabited by two or more families. It is well known that closets used by several families are rarely clean and certainly each tenement should have its own closet. This principle has been practically applied at the Corporation Artisans' Dwellings, Bow-lane, where tenements, though they consist of but one room and are let at only 2*s.* per week, have each their own scullery and closet.

The introduction of water-closets has not, however, failed in Dublin as elsewhere to bring with it a whole list of grievances and necessitates therefore very constant and careful supervision. The borough sanitary engineer, Mr. John G. O'Sullivan, reports that a house-to-house inspection made in a great number of streets rendered it necessary to serve notices to remedy the drainage and sanitary arrangements in the majority of the houses. Though the drains were of more recent date, still the levels were often incorrect and the pipes were not jointed. Frequently there was no interception between the house drain and the street sewer, and where this existed the ventilation consisted of only a two-inch lead pipe taken from the bend connecting the house closet with the soil-pipe. These latter pipes were very generally made of light metal and were not jointed. Other soil-pipes were ventilated in rain-water pipes which abutted close on a bedroom window. The faucets of the light metal pipes were too small to allow their being jointed with lead. Putty was therefore employed. So long as damp weather prevails the smoke test can be successfully applied, but after a dry summer the putty hardens and breaks away and then leakage becomes manifest. Many householders have been thus condemned though their drains were successfully tested a few months previously. Altogether in the course of a year action had to be taken in more than 3000 cases of defective drainage. Great pressure has also been brought to bear so as to ensure the insertion of interceptors between the house drains and the sewers. This is necessary not only so as to protect the houses from sewer air, but also to prevent the soil-pipes being used as rubbish shoots. This used to be a very general practice, and an extra flush or a bucketful of water would carry the rubbish into the sewer. When, however, there is an interceptor a stoppage soon occurs and then it is discovered that the soil-pipe has been used for the disposal of cinders and other household refuse. The result is that, though the number of closets draining into the sewers is increasing yearly, the sewers are cleaner and more free from heavy deposits than formerly. This is due to the more general use of interceptors, and their introduction has reduced the cost formerly incurred in cleansing the sewers.

The necessity of abolishing cesspits which so generally contaminate the subsoil and of rendering all drain-pipes absolutely watertight has been set forth in a striking manner by Sir Charles A. Cameron, superintendent medical officer of health of Dublin. He has caused special inquiries to be made concerning 4000 cases of typhoid fever in relation to the subsoil. It was then ascertained that the proportion of cases of typhoid fever was 50 per cent. more frequent in houses built on gravel than in houses built on the boulder clay. The fact is that the bacillus typhosus is aerobic and obtains oxygen far more freely in loose gravel than in stiff clay. In the gravel soil the germs can travel a long distance and freely multiply. Dublin has an excellent water-supply, the plumbing work is equal to that of other towns, and yet typhoid fever continues to prevail. It is therefore most urgent to prevent the contamination of the subsoil, especially if it is of sand or gravel, and in this respect Sir Charles Cameron informed me that within the last few years no less than 10,000 water-closets had been built. Nor are any clay or putty joints now allowed. These are preferred by the builders because, when necessary, the pipes can be disjointed and removed without breaking. In Dublin, as in many other large towns, the drainage of the poorer-class houses is often in better condition than that of the houses inhabited by wealthier people. This is due to the fact that the former are more frequently inspected. It is not so easy to find a pretext to test the drains of a high-class residence.

While the house drains have been frequently inspected and improved the main sewers have not been neglected. Some twelve miles of main sewers were recently surveyed, levelled, their condition examined, and more than 800 connexions with house drains inspected. That, however, these sewers are not self-cleansing is proved by the fact of the difficulty which arises with regard to their ventilation. The ventilators which terminate on the surface of the roadway have in a large number of cases, the engineer reports, been the cause of much complaint, more especially in narrow streets and avenues. If the sewer was clean—that is, if it did not contain any deposits—it would not occasion a perceptible odour. It is when the receding water leaves these deposits bare that the greatest nuisance arises. But the fact is that formerly sewers were not built on self-cleansing principles; and even to-day these exist only in exceptional instances. To prevent sewer air reaching the street in such a condition as to create a nuisance Sir Charles Cameron has invented a dome-shaped hood made of porcelain clay and plaster-of-Paris. This is placed over the ventilator outlet and absolutely prevents any sudden gust coming up. The air can only filter through slowly and it seems to lose its objectionable odour in the process. This certainly does away with the apparent nuisance, but this is not a sufficient reason to recommend the invention. No good purpose is served in merely masking a bad odour. The real object of perfect sanitation is to remove the cause that gives rise to the odour, and till this can be done such foul emanations as do exist had better escape into the street. The question arises whether this sewer-air filter really deodorises the air or only lets it through so slowly and in such small quantities that the odour becomes imperceptible. Whatever may be the answer to this question the next point is, What happens to the pathogenic germs, if any? Are they retained inside the filter? and if so should they be thus retained and imprisoned? Is that the true method of getting rid of them? But supposing that the filter is satisfactory from the bacteriological point of view, does it not impede the ventilation of the sewers? It is necessary to bear in mind that the prevention of a bad odour is but the secondary object; the first and most essential necessity is thoroughly to ventilate the sewer. The atmosphere of the sewer does not, however, obligingly force its way through apparatus placed on purpose to receive it. Sewer air invariably makes for the line of least resistance. This is why the charcoal or coke-trays have fallen into disuse. Doubtless they would have answered their purpose very well but for the fact that the sewer air instead of coming through them often found an easier exit by some leakage or an untrapped or insufficiently trapped soil pipe. Considering that the construction of the main sewers, of the branch drains, the joints of the pipes, &c., is not yet perfect, such an obstacle as a porcelain air-filter placed over the sewer ventilator may, while preventing perceptible odours in the street, increase the amount of sewer air which enters the houses. Such a contrivance may render good service, but only on condition that the sewer and its ramifications are absolutely air-tight in all other directions.

One very great improvement will be realised in the course of about two years. The numerous sewer outfalls into the Liffey will all be abolished. A loan of £350,000 was sanctioned for the extension and amelioration of the main drainage of the city. A main collector is in course of construction to carry all the sewage to Pigeon House Fort where it will be received in large tanks and treated chemically. The heavy sludge will be taken out to sea in tank boats, and the effluent discharged into the bay when the tide is running out. The addition of two powerful pumps will insure the continued flow of the sewage in all conditions of the tide. Thus in any case the Liffey will no longer be contaminated by the raw sewage of the town.

By far the most difficult problem in Dublin is that of the housing of the poor. There are some 32,000 families living in 48,000 tenement rooms. There is very little work for these people to do, for there are comparatively few industries in Dublin Model artisans' dwellings have been constructed, many philanthropic efforts have been made—notably by the late Mr. Peabody and by Lord Iveagh—but the people who most need to live in better houses are unable to pay the rents charged in these model dwellings. What is really wanted is better employment for some 20,000 people. How can families who often do not earn 10*s.* a week pay 4*s.* 6*d.* for rent? The result is that the model dwellings are inhabited by the better class of artisans and the slums remain in the same deplorable condition. The matter, however, has not been left solely to the 5 per cent. philanthropists. The corporation has itself built some model dwellings and here tenements are to be had at 2*s.*, 1*s.* 9*d.*, and even as low as 1*s.* 6*d.* a week. Unfortunately there are so few of such tenements at present that they have not materially affected the situation. The private landlords who let rooms to the poor are for the most part only leaseholders or yearly tenants They cannot under these conditions spend much on improvements. It would not pay them to provide proper accommodation for 1*s.* or 2*s.* a week. But this is possible for a municipality which can borrow money at a very low rate of interest and is not hungering after large profits. The borrowing powers of municipal authorities, as Sir Charles Cameron points out, are, however, limited to two years' valuation of the town for rateable purposes. This was a very wise provision when the money borrowed was only spent for unproductive purposes; such as, for instance, parks, sewers, &c. But slaughter-houses, markets, artisans' dwellings, &c., bring in good and reliable revenues, and it is claimed that for such purpose the powers of borrowing should be extended. In any case, the position stands thus: either the powers of the municipality must be extended so that it may be able to supply a very large number of tenements at from 1*s* to 2*s.* per week rental, or else new industries must be started providing more work and better pay for many thousands of people. Short of this it is difficult to see how overcrowding and insanitary conditions can be prevented.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Hulme Sewer Fatality.

THE fourth sitting of the Manchester City Coroner's Court brought to a conclusion the inquiry into the cause of death of two men, John McGregor and W. C. Hodgson, who were suffocated in a sewer in December last. The occurrence was mentioned in an annotation in THE LANCET of Dec. 24th. The result is not altogether satisfactory. The evidence showed that in one case a connexion had been made between a drain from certain works and the main sewer which had never been notified to the corporation Dr. Bailey, assistant lecturer on chemistry at Owens College, said that "in his opinion the gas" (presumably sulphuretted hydrogen) "must have been discharged into the sewer in a perfectly pure state and must have travelled two miles before it got to Walcombe-street and that the men were killed by a sudden rush of gas." Mr Thomson, the chemist, said there was a considerable quantity of acid in the sewer and that where they found sulphuric acid there was a strong smell of naphtha and benzoline. He had taken samples at different times "and found that on the morning of the 22nd December in one outburst 232½ lb. of acid came down." Other evidence was given showing that in some way or other a larger quantity of deleterious matter got into or was turned into the sewers but from which of various works it came was apparently not capable of proof. The coroner said that it was an offence to put into sewers gas or chemicals which might be injurious to health. The police confessed that they had failed to get definite evidence as to the source of this poisonous gas. The verdict was that the deaths had been caused by poisonous gas, but there was not evidence enough to fix the responsibility on any particular person or firm and they trusted that the Corporation officials would "examine with increased vigilance the effluent from works known to be producing dangerous substances." There are too many of these sewer accidents, as they are called; many occur which are not quite fatal and are not heard of. They are not accidents but are the natural result of a disregard for consequences and, we must suppose too, of the low estimate put on the lives of the men who work in the sewers by the proprietors or the managers of such works.

Ladies' Health Society.

The annual meeting of this most useful society was held in the Manchester Town Hall on Jan. 17th under the presidency of the Lord Mayor. Though its work may be thought slow and tedious and though "the teaching little by little and with oft-repeated iteration the elementary laws of domestic sanitation" may be long in leavening the dense mass of apathy and ignorance as to matters affecting health which prevail among the many thousands of the working population of Manchester and Salford, it is yet one of the best possible agencies for bringing about a gradual improvement in their knowledge of the art of living. The women of the working population have practically all domestic sanitation in their hands so that the best way of ensuring cleanliness of house, clothing, and person with efficient ventilation is to secure their interest and intelligent help. It is a work of house-to-house detail and must, to be of much use, be so carried out as not to wound the sensitive pride of the poorer classes, and on the whole this is fairly well achieved. "The health visitors, being superior women belonging to the class among whom they work, have a fellow feeling and a more thorough understanding of the difficulties, the needs, the failings, and the sorrows of the poorer classes than women brought up in greater refinement and luxury would have. The lady superintendents strengthen and supplement this by an element of outside freshness, by wider views, help of various kinds, support and cheer for the health visitors, and sympathy for all." The society is in the unwonted position for a charity of having a moderate balance in hand, but lady voluntary helpers are wanted. "There were districts in Salford ready to be taken up; the funds were provided and for these they wanted lady superintendents." The Lord Mayor testified to the good work of the society among "the poorest of the city" and to its working in harmony with the corporation, by whom 9 of the 16 visitors in Manchester are provided. Dr. Leech, Dr. Niven, and others spoke. The Rev. J. E. Mercer mentioned the work in Angel Meadow which, in contrast to its name, is one of the worst places in the city and said "the society was on the right track of slow and steady leverage at a huge mass which had to be lifted and could only be lifted by methods such as those used by the Ladies' Health Society." Manchester is no doubt typical of many other towns and it would be well if similar societies were at work through the country.

Jan. 25th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Urban Mortality in Scotland in 1898.

A SUMMARY of the particulars in the Registrar-General's monthly returns as to the eight principal towns of Scotland (the issue of which series for last year has just been completed) shows that in 1898 there occurred in these towns collectively 32,153 deaths, which for an estimated population of 1,568,536 gives a death-rate for the year of 2·05 per cent. This is a decrease upon the general rate for the previous year which amounted to only 2·12 per cent. of the inhabitants, being an exceptionally low figure. Of the 32,153 deaths 15,333 occurred in Glasgow, 5796 in Edinburgh, 3460 in Dundee, 2682 in Aberdeen, 1362 in Leith 1584 in Paisley, 1308 in Greenock, and 628 in Perth; and the individual death-rates in these respective towns were as follows, beginning with the lowest:—Leith, 17·85 per 1000 of the population; Aberdeen, 19·10; Edinburgh, 19·60; Perth, 20·50; Paisley, 20·97; Dundee, 21·02; Glasgow, 21·17; and Greenock, 21·38. The deaths of children under five years of age numbered 12,753, the aggregate infantile mortality being thus 39·6 per cent. of the total deaths. In every 100 deaths in Perth 26·2 were of children under five years of age, in Edinburgh the percentage was 32·3, in Greenock it was 37·8, in Paisley it was 38·5, in Leith it was 40·2, in Abereeen it was 40·3, in Dundee it was 42·0, and in Glasgow it was 42·6. Of the 12,753 deaths of children under the age of five years, 7756 were those of children under one year of age. Of the aggregate of 32,153 deaths, 5004 were due to specific febrile or zymotic diseases, 10 to parasitic diseases, 145 to dietetic diseases, 6057 to constitutional diseases, 2276 to developmental diseases, 16,140 to local diseases, 1235 to violence, and 1286 to ill-defined and not specified causes. To speak more particularly as to the causes of death, 3497 deaths were due to miasmatic diseases, 3601 to diseases of the nervous system, 2775 to diseases of the circulatory system, and 6004 to diseases of the respiratory system. With regard to the zymotic diseases, there were 2 deaths from chickenpox and 1 from small-pox, 914 from measles, 389 from scarlet fever, 28 from typhus fever, 336 from influenza, 1198 from whooping-cough, 252 from diphtheria, and 350 from enteric fever. There were also 1074 deaths from diarrhœa. The deaths from measles were most marked in Glasgow from January to May inclusive, in Dundee in June and July, in Paisley in May and July, and in Aberdeen in December. Fatal cases of whooping-cough were most marked in Glasgow from January to May inclusive and also in August and October, in Paisley from January to July inclusive, in Aberdeen in April, August, September, and October; in Greenock in January, February, and October; in Perth in August, in Leith in December, and in Edinburgh and Dundee in April. Enteric fever was marked in Paisley in September and November, and scarlet fever in Greenock in January and December. Influenza prevailed in Edinburgh in March and April, in Paisley in March, and in Dundee and Perth in April. The deaths from zymotic diseases in the eight towns collectively were 10·9 per cent. of the total deaths, as against 15·3 in the preceding year. In the eight towns together there were last year 2735 deaths from pneumonia, 2590 from bronchitis, 2985 from phthisis, and 2123 from endocarditis. The mean temperature of the eight towns in 1898 was 48·9° F., and the mean total rainfall was 35·08 in. Appended to the returns are particulars as to forty-four other towns with a united estimated population of 713,488, the individual populations ranging from 48,320 to 2324 and fourteen of the towns being above 20,000. The aggregate mortality in these forty-four towns last year was 13,111, or 1·84 per cent. of the estimated population, which is less than the rate for the eight principal towns together. Of the deaths there were 4 from chicken-pox, 395 from measles, 169 from scarlet fever, 356 from whooping-cough, 80 from diphtheria, 199 from fevers (typhus and typhoid), 5 from cholera, 671 from diarrhœa and dysentery, 64 from croup and laryngitis, 2255 from bronchitis, pneumonia, and pleurisy, and 1246 from consumption.

Physical Training in Scotland.

A good deal of interest has been aroused in Edinburgh and other places throughout Scotland by the publication of two letters from General Chapman. The first was sent to School Boards and advocated the physical training on the army model of the pupils attending the schools and the establishment of gymnasia. The second has been addressed to the Lord Provost of Edinburgh and advocates the formation of schools-at-arms and of public gymnasia for the physical training of our youths. All schemes which have as their object the physical well-being of the youth of the land commend themselves to the profession, and interest in physical training is not only good in itself but adds an interest to the life of young men which acts as a considerable preventive. The warm advocacy of these schemes by General Chapman will, there is little doubt, bear some fruit.

Edinburgh Dental Hospital School.

The annual meeting of this institution was held on Jan. 23rd under the chairmanship of the Lord Provost. From the report it appears that during the year the number of cases of conservation dealt with was 7234; the extractions numbered 11,600 teeth; the number of persons to whom anæsthetics was administered was 959, of whom 293 were given chloroform, 620 nitrous oxide gas, and 46 nitrous oxide and ether. The number of students on the roll was 55, of whom 23 were in their first year. There was still a debt of £2000 against the institution.

Out-patients at the Edinburgh Royal Infirmary.

It is worthy of note that the serious attention of the managers of the Edinburgh Royal Infirmary has been drawn to the increase in the number of out-patients. The committee of contributors expressed their belief that a considerable number of patients who could well afford to pay for medical advice were taking advantage of that department. This question has hitherto been shunned and it is certainly noteworthy that the complaint comes from the management and not from the honorary staff.

Proposed Additions to Leith Hospital.

The directors of Leith Hospital have now matured plans to meet the views of the committee who have charge of the scheme for commemoration of the Queen's Diamond Jubilee, so that the scheme will probably take practical shape in the course of a few months. The proposed extension will allow of an increase of 27 beds in the King-street Pavilion and the hospital when completed will contain 102 beds and 2 isolation rooms. There will, moreover, be erected in addition a new kitchen, laundry, and nurses' home. The kitchen and laundry will be provided with steam-power. The nurses' home will accommodate nearly 30 nurses. The Diamond Jubilee Fund amounts to only about £5000, whereas the total cost of the new buildings, including machinery and plant, will amount to between £17,000 and £20,000.

St. Andrews University.

The installation of Mr. James Stuart, M.P., as Lord Rector took place on Jan. 23rd. At the same time honorary degrees were conferred on various persons, Sir William Broadbent, as representing medicine, and Mr. Buckle, editor of the *Times*, as representing the press, receiving the degree of LL.D.

Glasgow Microscopical Society.

The society met on Jan. 17th to hear a lecture on "The Development of the Heart" by Mr. J. F. Gemmill, M.A., M.B. Glasg., Lecturer on Embryology in the University. After a preliminary comparison of the circulatory mechanism in the various groups of the vertebrate series Dr. Gemmill described in detail the development of the mammalian heart and its various parts. He remarked upon the anticipatory character of the appearance of some of the parts when the organ was regarded from a physiological point of view, showing how in several respects stages of structure were reached in advance of physiological requirement. The generalisation of Haeckel that every animal in its individual development exhibits an epitome of the stages through which the genus has been evolved was criticised in detail with a somewhat adverse conclusion though its value both in the study of embryology and as an aid to classification was allowed. The President, Dr. James Rankin, proposed a vote of thanks to the lecturer and this was heartily accorded.

Royal Infirmary, Glasgow.

A movement to promote the election of two ladies to the board of management of the Royal Infirmary has now taken definite shape and at the forthcoming annual meeting it is understood that Mrs. J. W. Napier and Mrs. G. R. Mather will both be nominated. At the last annual meeting of the Western Infirmary a similar resolution was submitted and was only withdrawn on an official undertaking to consider the question.

Jan. 25th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Dublin Orthopædic Hospital.

THE annual meeting of the governors and subscribers to the Dublin Orthopædic Hospital took place on Jan. 18th, under the presidency of the Right Hon. Lord Justice Walker. The report, which was read, showed that the institution was in a most satisfactory condition and that what it most required was enlargement. A lease of ground adjoining the hospital in Great Brunswick-street was acquired in March last, but it is now likely that the Corporation of Dublin will succeed in a compulsory purchase of this plot as a site for a fire-engine station. In that event some other plan must be adopted for the enlargement of the hospital. A vote of thanks to Lord Justice Walker was proposed by the President of the Royal College of Surgeons in Ireland who is one of the medical staff of the hospital.

Royal University of Ireland.

A meeting of Convocation of the Royal University of Ireland was held in the University buildings on Jan. 19th, the Rev. Dr. Hamilton, President of Queen's College, Belfast, occupying the chair. The following members were unanimously re-elected representatives on the Senate: Sir William Thomson, M.A., M.D. R.U.I.; His Honour James J. Shaw, M.A.; Dr. Thomas Sinclair; Mr. Edward Cuming, M.A.; and the Rev. M. Leitch, M.A.

Action for Libel by a Medical Man.

The medical officer of the Glenties Dispensary, County Donegal, has recently brought an action against some members of the Dispensary Committee and the proprietor of the *Londonderry Sentinel*, jointly and separately, for libel alleged to be contained in a resolution passed by the Dispensary Committee. An application was made in the Queen's Bench Division, Dublin, on Jan. 22nd, before Mr. Justice O'Brien and Mr. Justice Gibson on the part of the defendants to change the venue from Dublin to Donegal, in which county the cause of action arose. There was a very strong muster of eminent members of the Bar, but although Mr. Drummond, Q.C., in opposing the motion stated that the charges made against his client were of a startling character, the application was granted and the case will be tried at Donegal.

Belfast Royal Hospital.

At the annual reunion of the committee of the working men in connexion with the Royal Hospital, it was reported that the amount of subscriptions received during the past year was the largest on record since the formation of the working men's committee—viz., £2534 1*s.* 11*d.*—in addition to £50 received from the employés of the Belfast Street Tramways Company, making the total amount received £2584 1s. 11*d.* The committee, which meets in the Board-room of the hospital once a fortnight, is composed of representatives from the different firms whose workers contribute to the funds of the hospital and are elected from amongst themselves by the subscribers. Each member is appointed in turn to act as orderly whose duty it is to visit the hospital at stated intervals and to report the result of his visits. By this means the committee say that they have succeeded in retaining the confidence of the people whom they represent in the management of the hospital. The committee tender their best thanks to the medical staff for the very efficient services rendered to the patients placed under their care.

Nursing in Workhouses in Ireland.

At a meeting of the Lurgan Board of Guardians held on Jan. 19th a letter was read from the Local Government Board on the subject of hospital nursing, intimating that it was proposed to prescribe that a qualified nurse must have been two years in a recognised clinical hospital and have obtained therefrom a certificate of proficiency in trained nursing. Such certificate would be admissible from a clinical hospital only, unless the nurse had been trained in a non-clinical hospital having at least 150 beds and possessing a resident surgeon and two visiting surgeons and unless the nurse had attended lectures and received a course of instruction in the nursing of contagious diseases. Dr. Darling (surgeon to the Lurgan Union Infirmary) said that he had a note from Mr. Stafford (Medical Commissioner of the Irish Local Government Board) saying that the definition of a trained nurse now laid down would only apply to nurses drawing half salaries from Government, but the qualifications were framed to exclude workhouses as training grounds. The Lurgan probationers would be recognised as charge nurses, but not as nurses entitled to receive the proportion of Government salary. The Local Government Board was establishing two classes of nurses, a superior and an inferior. There were only two workhouses in Ireland (Belfast and Dublin) which would come up to the recognised standard, and he trusted that public opinion would be brought to bear on the matter and that the Local Government Board would change its mind. The guardians agreed to appeal to the other Poor-law boards in Ireland on the subject.

The Conscientious Objector.

The first application made in Belfast for exemption under the new Vaccination Act took place in the Summons Court of that city on Jan. 23rd, when a man applied for an exemption certificate as he had a conscientious objection to have his child vaccinated. The resident magistrate said he had no power to grant a certificate, and the clerk of the court pointed out that the Act did not apply to Ireland or Scotland. In this dilemma the applicant inquired what redress had he, to which the clerk gave the very significant reply: "The only redress you have is to get your child vaccinated." On the suggestion of the resident magistrate the applicant said that he might probably go to England which apparently is the special El Dorado of the conscientious objector.

Medical Men and the New Urban and County Councils.

The Local Government Board have just made an order that no paid officer engaged in the administration of the Poor Relief (Ireland) Acts, 1838 to 1898, shall be eligible to serve as a county councillor under the Local Government (Ireland) Act, 1898. If this applies to county borough councillors, as it appears it does, it is said that it will disqualify two gentlemen who have been elected members of the Belfast Corporation—Alderman Bigger, M.D. R.U.I., who is physician to the Union Fever Hospital, and Dr. Barron, who is dispensary medical officer. The Local Government Board should have made a clear pronouncement on this question before the elections.

The Urban District Councils.

The new urban councils under the recent Local Government (Ireland) Act have just been elected and are settling down to work. In Lisburn Mr. St. George has been elected chairman and in Newry Mr. McCartan, J.P. At Ballymena notice of motion was given that immediate steps be taken to obtain an abundant supply of water to the town, and at Bangor, after a long discussion on the same subject, a committee was appointed to take the matter of the water-supply into consideration and to report from time to time to the board. Mr. Moore, one of the newly-elected councillors, is on this committee.

Election of Medical Officers at Rathdown Union.

The principal business which came before a very large meeting of the Board of the Rathdown Union, which took place on Jan. 11th, Lord Powerscourt being in the chair, was the election of a medical officer to the workhouse. There were no less than eleven candidates for the appointment, to which Mr. Pim was ultimately elected after many ballots.

Jan. 24th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Plague.

AT the meeting of the Academy of Medicine held on Jan. 10th Professor Proust, the Inspector General of the Sanitary Department, read a long report on the Geographical Distribution of Plague in Asia and Africa and referred to the dangers which would arise from an extension of the malady to Europe. He reminded his hearers that the Venice Convention of 1897 had drawn up a set of regulations which should have the effect of protecting Europe from the danger of propagation of the Indian plague. Unfortunately, however, some of the measures adopted had not been carried out in their entirety, while others had never been acted upon at all. With regard to the question of the spread of plague by means of laboratories, as had recently happened in Vienna, strict precautions to avoid this happening again had been taken in every country. In France, for example, a commission composed of MM. Roux, Duclos, Brouardel, and others has just proposed to the Government a number of very strict regulations to apply to all laboratories. These regulations provide that no one shall be allowed to remove cultures from the precincts of the laboratory and that even within the laboratory they shall only be handled by trained workers under the personal surveillance of the chief who shall also be responsible for the work. As to international measures the question is far more delicate, and M. Proust lamented that certain nations for fear of putting obstacles in the way of their trade only carried out inspection and disinfection in a very perfunctory fashion. He recalled to mind the possible epidemics which might have broken out in London owing to the arrival in that city of infected persons who had escaped the inspection organised on the Suez Canal. Thanks to the energetic measures taken by the sanitary authorities of London nothing untoward occurred. It was, however, by no means impossible that if more care were not taken at Suez the plague would one day overleap the barriers provided against it and establish itself in Europe. M. Proust cited the case of the *Caledonia* of the Indian Mail Service. After reflecting severely upon the conduct of various sanitary authorities and officials with regard to this vessel M. Proust mentioned the instance of the *Golconda* and the *Mahallah*. M. Proust concluded by earnestly appealing to the sanitary authorities of every country to demand of their respective Governments that no infractions of the rules of the Venice Convention should be allowed merely in the interests of commerce.

The Use of Blue Glass in the Diagnosis of Syphilis.

At the meeting of the Society of Dermatology and Syphilography held on Jan. 12th M. Jullien said that since the year 1895 he had been in the habit of employing blue glasses as an aid to the diagnosis of syphilitic eruptions. He uses a simple binocular fitted with lenses made of cobalt blue glass. Only a moderate amount of light is necessary and the practitioner must remember that all the red and yellow rays are cut off. Owing to this the field is uniformly blue and the matter resolves itself into differences of tint in the depth of the blue colouration. This method is valuable for the diagnosis of eruptions even before they are visible to the naked eye and also for the diagnosis of aborted eruptions. M. Jullien does not affirm that one can absolutely diagnose syphilis in this way by one examination, but he insists on the necessity of many and long-continued observations. Weeks, months, sometimes even years after the disappearance of a syphilitic rash a blush remains visible by means of the blue glass, showing that the skin is still impregnated with germs and pointing to the necessity for continuing treatment. Those spots which might be considered as fresh are really only the outcome of the original eruption. This method is not only useful in the diagnosis of tertiary syphilis and the scars left by it but also in the pathological anatomy of that disease.

Hygiene for Barbers.

At a recent meeting of the Council of Hygiene and Public Health of the Department of the Seine M. Bezancon, head of Division 2 of the Prefecture of Police, read a communication from M. Dupuy, head of the Ministerial Council, dealing with the use of lotions for the hair made upon an ether or light petroleum basis. Professor Bourgoin, in accordance with a regulation put forward by the Council of Hygiene, had laid before the Minister a report dealing with the dangers accruing from the use of these preparations. The Consulting Hygienic Committee of France, to which body the matter was referred, reported in its turn on the dangerous nature of of these lotions and pointed out that they did not possess the properties attributed to them. The Minister therefore decided that the use of these preparations should be checked and that the best way was to make use of the Hairdressers' Association as an intermediary to point out to the trade the dangers of these lotions, dangers which were not accompanied by any compensating advantages. The hairdressers, whose interest it is to give satisfaction to their customers and not to expose them to risks, at once agreed to the demands of the Minister. In thus prohibiting the use of lotions made with light petroleum the Administration has acted as it should do in its capacity of being responsible for the public health, and if accidents should happen in future the Administration will at all events be free from blame.

The New Sanitary Department at Frioul.

The new sanitary station at Frioul, near Marseilles, has just been fitted with as perfect a plant as possible. A wooden landing stage permits all merchandise to be rapidly loaded or landed. The landing stage is divided into two sections, each furnished with an up and down railway for waggons. One-half is for the landing of infected goods and the other for the loading of those which have been disinfected. Bales, cases, and baggage of all kinds are lifted on to the stage by cranes capable of handling a weight of 1200 kilos. They are then carried by the goods waggons to a large disinfecting shed where by means of an ingenious system of tubes they are saturated with disinfectants. Goods suspected of being particularly dangerous go through two stoves at the end of the shed. After these operations the goods are carried down to the wharf used for disinfected goods and are then loaded into the ship which brought them. Identical measures are taken for the disinfection of passengers. The disinfecting cabins are divided into three: in the first the passenger undresses and his clothes are promptly taken to the stoves where they are disinfected; in the second the passenger is douched; and in the third he gets his clothes back and is allowed to dress.

Jan. 24th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Catheterisation of the Ureters.

THE subject of catheterisation of the ureters has recently been discussed by the Berlin Medical Society and has led to a series of very animated debates extending over several meetings. Dr. Casper reported 3 cases where a good result was obtained by this procedure. In the first case the patient was a man in whom total anuria had been caused by incarceration of a calculus in the ureter, but after catheterisation and injection of sterilised oil the calculus was discharged. In the second case the patient was a woman, twenty-eight years of age, suffering from severe pyelitis, from which she recovered after catheterisation and the injection of a 1 in 1000 solution of nitrate of silver. The third patient was a man, thirty-four years of age, having a tumour of the right hypochondriac region which at first was believed to be an echinococcus cyst, but on puncture was found to be the enlarged pelvis of the kidney and by catheterisation of both ureters it was ascertained that the urine from the right kidney was purulent whilst that from the left was normal. Catheterisation and injection of solution of nitrate of silver caused fever, but nevertheless after a series of injections the pyelitis disappeared and the urine became normal. Dr. Casper pointed out that in cases where a free communication existed between a renal abscess and the pelvis of the kidney injections of nitrate of silver may be able to effect a cure. Moreover, extirpation of a kidney ought not to be performed until the soundness of the other kidney had been ascertained by catheterisation. Dr. Casper's views were strongly opposed by Professor Israel who in a very detailed statement warned his hearers against attaching too much importance to this procedure. In 81 operations for pyonephrosis performed by him there were only 3 in which catheterisation of the ureters might possibly have been of any use. His general conclusions were (1) that catheterisation gave little or no information as to the condition of the second kidney when nephrectomy was contemplated, as under certain conditions normal urine may be passed by the catheter although the kidney is seriously affected; (2) that affections of the second kidney were not in every instance contra-indications of nephrectomy; (3) that catheterisation was unable to ascertain the presence or the nature of an obstacle; (4) that the presence of blood in the urine obtained by catheterisation might either be due to hæmorrhage from the kidney or to injuries produced by the catheter; and (5) that the operation is liable to produce infection. In the ensuing discussion Dr. Kutner emphasised the impossibility of obtaining sufficient sterilisation as the optical apparatus was liable to be destroyed by the application of steam. Dr. Landau said that in gynæcological operations, as for instance in extirpation of the uterus for carcinoma, &c., the method was useful as a means of avoiding injury to the ureter. Of the other medical men taking part in the discussion Professor Litten and Dr. Wossidlo opposed the method, whilst Professor Posner, Dr. Mainzer, and Professor Dührssen expressed a more favourable opinion.

The State Examination in Medicine.

An Imperial Commission composed of delegates from the different states of the empire recently met in Berlin to discuss alterations of the State examination. It is by passing this examination, as the readers of THE LANCET will remember, that medical students obtain their qualification to practise in Germany. The principal and most important paragraph of the Commissioners' resolutions is the recommendation that the preliminary examination (*Abiturientenexamen*) passed at a "gymnasium" shall be obligatory on students of medicine. By this attitude the hopes of those who plead the cause of the "realgymnasia" have been disappointed. In the "gymnasia" the study of the Greek and Latin languages is preponderant, whilst in the "realgymnasia" modern languages, physics, &c., are the principal subjects. A classical education will therefore continue to be an essential condition of entering on a medical career. The Commissioners recommend that the medical curriculum should be of at least five years' duration, whereas hitherto four and a half years have been sufficient, and that this time should be spent at universities of the German Empire exclusively; under certain circumstances a portion of the curriculum may be taken in foreign universities. It is proposed that the examination in anatomy and physiology, which according to the present regulations takes place twice—viz., at the first and the second professional examinations, shall henceforth be removed from the State examination and be wholly included in the first professional examination (*tentamen physicum*). It is also recommended that the subjects of examination shall be: general pathology and pathological anatomy, pharmacology, clinical medicine, surgery, gynæcology and obstetrics, diseases of the eyes, diseases of children, mental diseases, and hygiene; foreigners to be subject to the same conditions as Germans. The resolutions of the Commission are of course of a preliminary character only and have to be sanctioned by the Federal Council which is the only authority competent to give a final decision. The German members of the medical faculties of Switzerland have availed themselves of this opportunity to ask the German Government to establish a certain amount of reciprocity in the qualifications of both countries. They especially desire that the testimonials of Swiss and German universities may be of equal value, so that German students may be able to take their curriculum in Switzerland without losing a portion of the assigned time. Swiss medical men would like to hold appointments in German universities not only in laboratories and similar teaching institutions, but also in clinics and university hospitals for which a medical qualification is required. It is not probable that the Government will agree to meet the wishes of the Swiss professors as the number of native candidates for vacant places is great enough to make the coöperation of Swiss medical men unnecessary.

The Medical Courts of Honour.

In the speech from the Throne by which the present session of the Prussian Diet was opened a Bill relative to medical courts of honour was announced. This matter, to which allusion has already been made in the columns of THE LANCET, has been discussed at great length in the medical chambers as well as in the different associations of medical practitioners. The opinion of the profession was divided as to the advisability of this measure, but the Government has resolved to bring the matter to an issue. Owing, however, to the great amount of business claiming the attention of the legislature it is very uncertain whether the Bill will be passed or even discussed before the session is closed.

The late Professor Gurlt.

Professor Gurlt, who died in Berlin on Jan. 8th, is universally regretted by the medical profession and especially by its surgical branch. Although engaged in surgical practice for a very short time he contributed largely to the science and history of surgery. As permanent secretary of the German Surgical Association he had to make the arrangements for the annual meetings of this important society and to publish its proceedings. During the last few years he had the management of the collective investigation on anæsthetics. He was one of the founders and principal members of the German Red Cross Association and long before the foundation of this society called public attention to the necessity of greater care being taken of sick and wounded soldiers in war-time. His name will always be famous as one of the historians of surgery. Scarcely a year before his death he published his great work on the "History of Surgery during the Middle Ages and the Renaissance," the result of more than ten years' study. The deceased was extremely modest and unostentatious and not widely known to the general public, but he enjoyed great popularity in medical circles. Professor Gurlt was the editor of the *Archiv für Klinische Chirurgie* and co-editor of the Virchow-Hirsch *Jahresbeiträge*

Jan. 23rd.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The Health of Leo XIII.

GIBBON ironically congratulated himself on the number of clergymen whom he had been the means of promoting by "replies" to his famous thirteenth and fourteenth chapters. In like manner the reigning Pontiff may contemplate with satisfaction the many journalists whom he keeps alive by reporting on his health. This latter is really an "industry," if we may judge from the rapidly recurring paragraphs on "le salut du Pape," or "la salute del Papa," or "die Gesundheit des Papsts," which throng the European press when contemporary affairs are slack or wanting in interest. If the official journal of the Vatican—the *Osservatore Romano*—fails to chronicle the usual audiences or receptions its silence is at once the signal for the familiar paragraph in which the word "deliquio," or "défaillance," or "Ohnmacht" is sure to appear, according to the reporter's nationality. The week has just closed with an unusually pronounced crop of these newspaper exanthemata or (fitter phrase) journalistic "rash." On inquiry the condition of his Holiness is found to resolve itself into a cold in the head, an ailment not unknown even in mid-winter and in a hard-working ecclesiastic verging on ninety years. The facts are these. Dr. Lapponi on the morning of Jan. 18th advised his august patient to keep his bed, as he was certainly suffering from a "raffredore di testa" which, in spite of every precaution, he had contracted in this abnormally inclement season. His Holiness did so and the next morning felt distinctly better. On the 20th he still kept his bed by Dr. Lapponi's advice, although all the symptoms (coryza, gravedo, febricula) had completely gone. Since Thursday last Dr. Lapponi has visited him three times daily instead of three times weekly, as is his ordinary custom, but the statements that the illness has been grave, necessitating Dr. Lapponi's spending entire nights at the Vatican, are wholly untrue. On the contrary, that exemplary consultant is not in the least alarmed at the condition of his Holiness whom he quite expects to be able next week to resume the suspended audiences—the reception of the clerical aristocracy and of the Princess of Sweden which had been fixed for Jan. 19th. One effect of these "statements on the best authority" or "announcements in well-informed circles" is greatly to add to Dr. Lapponi's occupation. Till two in the morning of yesterday he was incessantly called to the telephone to satisfy the representatives of foreign Powers and other diplomatic agents who importuned him for "information" confirming or contradicting the pessimistic paragraphs of the Continental journals.

The Academic "Insurrection."

The phrase is official and it appropriately describes the undergraduate mutiny and rioting of which the Universities of Palermo and Naples have just been the scene. At the former of these seats of learning the students, indignant at not getting their own way in the matter of examinations, "demonstrated" in characteristic fashion and from angry words proceeded to violent deeds, smashing the windows, the lamps, and the class-room furniture. At Naples the Sicilian outbreak had its replica and for some days his Excellency the Minister of Public Instruction (Dr. Baccelli) has been doing his utmost to restore order and induce a *modus vivendi* between the undergraduates and the professorial staff. He has not succeeded. On the contrary, he has had to issue a telegram sanctioning the temporary closure of these universities—a step taken by their Rectors and their Consiglio Academico. He further commands these authorities to announce publicly to the students that "they have lost the summer session examinations," and also to inform the young men's parents and guardians that if, on the reopening of the universities, the disturbances are renewed the entire academic year will be irrevocably sacrificed. He concludes by ordering the same authorities to assure the young men that as soon as the damage they have done to property has been ascertained they will be made to refund the equivalent in money under legal penalties. This is clear, direct admonition, and it ought to have the desired effect. But, unfortunately, the evil has its roots too deeply ramified in the Italian idiosyncrasy and academic [illegible] of its speedy or final extirpation. The whole undergraduate life in these southern nationalities is so different from the sober (or, as they consider it, sombre) English habits. The students (the bulk of them not much advanced in their teens) pose as precocious men, mix themselves up in contemporary politics, and seem bent on qualifying as future Cleons or Gracchi rather than as useful citizens in the professional sphere. They have the "mania contionabunda" developed prematurely, most of them being glib speakers or suffering from what Professor Pillans of Edinburgh used to call a "determination of words to the mouth." With such tastes and "distractions" they neglect their work and are continually demanding "extraordinary sessions" for "extraordinary examinations" to make up for their having let slip the opportunities open to them in the regular academic year. These demands have been so often conceded that they have come to be claimed as rights, to the prejudice of sound discipline and solid acquirement. Unfortunately, too, these precocious politicians have sympathisers in the Chamber of Deputies who aid and abet their young clients by making themselves troublesome to the Minister of Public Instruction for the time being, and so the wretched system tends to assume more formidable proportions from year to year. The lay press is alive to the serious consequences of this perversion of academic life and insists on a sterner vindication of authority on the part of the university heads. A beginning has just been made towards this consummation by his Excellency Dr. Baccelli's mandate to the Rectors and professorial staffs of the Neapolitan and Palermitan schools, and if the Cabinet to which he belongs holds together long enough—not a sanguine outlook in Italy any more than in France—he may be expected to work a salutary reform in his country's academic system.

Jan. 21st.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Introduction of Bacilli of Bubonic Plague.

SOME months ago Dr. Leonard Haydon who was sent out to Bombay to the Plague Committee there and made investigations on plague bacilli arrived in Victoria on a visit to his brother. He brought with him several cultures of the bacilli. He showed his cultures to the President of the Board of Health and gave him information as to the measures taken in India to prevent the spread of the bubonic plague. When news came to Victoria of the fatal cases at Vienna from experiments with the plague bacilli at the *Pathological* Institute the Board of Health got alarmed and despatched its assistant medical officer with a detective to seize and destroy the bacilli in possession of Dr. Haydon. At first Dr. Haydon refused to give them up, pointing out that they were attenuated cultures and therefore not only harmless but that they would be of use in treatment should the disease reach the colony. He also claimed £300 as compensation if they were destroyed. Eventually, however, he handed them over and they were destroyed by heat. The Board had no legal power to seize the bacilli, but the Customs Act was brought in to aid on the ground that the gelatin of the cultures was dutiable and no duty had been paid. Dr. Haydon considers that he has been very unfairly treated, but the Board and the Government maintain that "the safety of the public is the supreme consideration." Dr. Haydon will probably receive compensation.

The Midwifery Nurses Bill (New South Wales).

On the Midwifery Nurses Bill coming up for its second reading in the New South Wales Legislative Council, after having been passed in the Assembly, the Attorney-General opposed the measure and said that the Government had received a communication from the Board of Health to the effect that the Bill imposed duties on the Board which could not be undertaken and were altogether outside the functions of that body. He said that the effect of the Bill would be to turn loose on the unthinking and undiscriminating public a class of women, really unqualified, but able to pose as qualified, and with a character almost as good as a medical man." The Bill was negatived by 27 votes to 4.

Poisons Act Amendment Bill (Victoria).

Reference has been previously made to the Poisons Act Amendment Bill introduced into the Legislative Assembly of Victoria. The Bill has now passed through all its stages in the Assembly and has been sent on to the Legislative Council. The Pharmacy Board desired some further amendments and restrictions which however were opposed by the medical societies as limiting the rights of medical practitioners in dispensing. In the discussion on the Bill in the Assembly the opinion was freely expressed that the Bill should make it compulsory for the composition of all patent medicines to be stated on the label, but the Bill was passed as drafted, the Chief Secretary promising to inquire into the effect of the proposed amendments.

Dentists Bill (Victoria).

A Bill to amend the law relating to dentists has been introduced in the Legislative Council of Victoria by the Government. It provides for a reduction in the number of members of the Dental Board from 7 to 6. 2 members are to be legally qualified medical practitioners and at least 3 are to be dentists. The board is to select examiners for conducting examinations and it may accept a certificate of examination in any particular subject by the University of Melbourne, the College of Pharmacy, or any school of mines or public educational institution. Unregistered persons are to be prohibited from using the name of "dentist," "dental surgeon," or "dental hospital," "college," or "school." Provision is made for registering dentists with recognised certificates obtained in other countries.

Annual Meeting of the Society of Medical Officers of Health (Victoria).

At the annual meeting of the Society of Medical Officers of Health of Victoria the election of officers resulted as follows:—President, Dr. J. Jamieson. Vice-Presidents, Dr. Courtney and Mr. Branson. Committee, Mr. Macmullen, Mr. Morton, Dr. Whitaker, and Dr. Gunst. Hon. sec. and treasurer, Dr. Daish. The report stated that the society had given special attention to the supply of pure drinking water in State schools; it claimed that it was obligatory on the Government to supply the children with pure air and pure water. The milk-supply had also specially engaged attention and the society had joined the other medical societies in a campaign against the present arrangements made compulsory by certain clauses in the Factories and Shops Act. The President then read a paper on Tuberculosis: its Prevention and Cure, and stated that about 800 persons died annually from that disease in Melbourne.

The Milk-Supply of Melbourne.

On the subject of the metropolitan milk supply a deputation of delegates from the Medical Society of Victoria, the Victorian Branch of the British Medical Association, the Melbourne Medical Association, and the Society of Health Officers, waited on the Chief Secretary to ask that the operation of the Factories and Shops Act with reference to the non-delivery of milk on Wednesday and Sunday afternoons should be suspended during the summer season. It was pointed out that under sections 45 and 46 of the Act it was illegal to deliver milk on two afternoons of the week. Diarrhœal complaints due to bad milk were responsible for 1000 out of 1600 deaths of infants in the metropolis. The Chief Secretary, in reply, said that the fault was in the whole system of milk-supply and the Act only legalised what had been the custom before it was passed and it did not prevent people going to the dairy for milk. The matter would receive his best attention and he would obtain a report on the subject from the Board of Health.

Tubercle in Meat in Victoria.

Some statistics recently prepared for the Minister of Agriculture in Victoria show that the number of cattle found to be affected with tubercle when slaughtered is very small as compared to other countries, being only ·4 per cent. as against 15 per cent. in Berlin, 17·7 per cent. in Denmark, 20 per cent. in France, 22 per cent. in Saxony, and 25 per cent. in England. This result is attributed to systematic inspection which is to be made still more rigorous.

The Medical Profession and the Friendly Societies.

Early in November a conference of delegates from the various medical societies in all the colonies was held in Melbourne to consider the relations between the profession and the friendly societies and endeavour to get some united and intercolonial action in remedying alleged abuses. The conference was summoned by the Medical Defence Association of Victoria and was attended by representatives from New South Wales and South Australia as well as from the country and metropolitan medical societies in Victoria. Queensland and Tasmania were unable to send delegates but were willing to coöperate. Mr. G. A. Syme was elected President of the conference and Dr. E. W. Anderson secretary. It was agreed that the present relations between the profession and the friendly societies were unsatisfactory and that the societies should impose a wage limit of £200 per annum upon all their members. It was also agreed that each member of a lodge should pay an annual fee of 10*s*. and a fee of 1*s*. for each consultation and 2*s*. 6*d*. for each visit of the lodge surgeon, and that midwifery and miscarriages, anæsthetics, accidents at sport, teeth extractions, operations, and cases involving legal proceedings should be extras. It was suggested that a conference be held between delegates from the meeting and delegates from the friendly societies. The Medical Defence Association issued a circular to its members asking for certain information, and from the replies it was apparent that the abuse of the lodge system by well-to-do persons was very prevalent.

Dec. 6th, 1898.

[*By Telegram.*]

Sir Alfred Roberts is dead.

Obituary.

JOSEPH COATS, M.D. GLASG.,

PROFESSOR OF PATHOLOGY IN THE UNIVERSITY OF GLASGOW.

IT is with much regret we announce the death of Dr. Joseph Coats, Professor of Pathology in the University of Glasgow and Pathologist to the Glasgow Western Infirmary. Dr. Coats had been in unsatisfactory health during the last two years. In the summer of 1897 he obtained leave of absence from his duties and spent some months in the Channel Islands. Subsequently he took a voyage to Australia and on his return was able for a time to conduct his class at the University. In the later months of last year his health again gave way, and more recently definite evidence of malignant disease appeared, and to this he succumbed at his residence in Glasgow on Jan. 24th. He leaves a widow and two daughters. Dr. Coats was a native of Paisley where he was born in 1846. He was educated at the Grammar School of that town and at the University of Glasgow It was at the latter institution that he pursued his medical studies and graduated with first class honours in 1867. He then proceeded to Germany where he spent two years, the greater part of the time being occupied in experimental work at Leipsic under Professor Ludwig. Shortly after his return to Glasgow he was appointed Pathologist to the Royal Infirmary and commenced to give a short course of lectures on pathology, a subject not then included in the official medical curriculum. He also gave considerable attention to the subject of diseases of the throat, and it may be remembered that he is responsible for the chapter on this subject in Dr Finlayson's Clinical Medicine. He very soon, however, concentrated his entire time and energies to pathological work, though it is noteworthy that he had had considerable experience as a hospital physician, and all his influence and teaching were strongly opposed to the view which would restrict the scope of pathology to the mere facts of post-mortem examination. On the contrary, he invariably led his students to regard the physiological and clinical relationships of these facts and to use their pathological studies as guides to a broad scientific and practical view of the nature and phenomena of disease.

When the Western Infirmary was opened Dr. Coats was appointed pathologist and his lectures were recognised by the University, but it was not until 1890 that he was appointed University lecturer and only in 1893 upon the foundation of the chair by the Universities' Commission that with universal approval he became Professor of Pathology and took his seat in the Senatus. But for fully twenty years before that date he had been the University professor in everything but name and many hundreds of students who are to-day mourning his untimely death are indebted to him not merely for technical instruction in the subject which he taught but for a steady example of earnestness, thoroughness, and loftiness of purpose and aim. The simplicity and strength of his character, his undeviating regard for accuracy in all the phases of human life, his fearlessness, and his earnestness of conviction were influences well appreciated both by his students and by all who knew him. Possibly to the stranger, and certainly to the trifler, a manner somewhat cold and reserved might seem to argue some deficiency of sympathy, but all associated with him knew him and trusted him as a just man, generous-hearted, unselfish, strong, and true.

The most considerable work which Dr. Coats presented to the profession was of course his "Manual of Pathology"; he also published together with his friend and colleague, Sir William Gairdner, a volume entitled, "Lectures on Tubercular Diseases." For many years he acted as Editor to the *Glasgow Medical Journal*, and numerous articles from his pen are to be found in the current literature of the last twenty years. His careful and exact powers of observation and the logical cast of his mind are well illustrated, for example, in the report of the Glasgow Commission on Anæsthetics and in an address on the nature of cancer which he delivered a few years ago as President of the Glasgow Medico-Chirurgical Society. His *alma mater* is indebted to him for many things, and the present position of pathology in the University is largely due to his influence. The splendidly equipped Pathological Institute now forming part of the resources of the University is a monument to his unflagging devotion and perseverance, whilst it is none the less true that his capacity for appreciating the aspirations and difficulties of younger men and his kindliness and guidance made his laboratory the scientific home of many earnest workers. The same personal qualities and the absolute confidence of his professional associates in his rectitude of purpose explain the active and responsible interest which he took in the establishment of the University Union and in all movements likely to promote the interests and welfare of young men. In all spheres and forms of professional activity it is not too much to say that he was held in the highest regard and was trusted, being known to be true. Dr. Coats was a man of deep and strong religious convictions. He was a member of the Baptist Church and for some years he acted as President of the Baptist Theological College in Scotland. No one can know a man like this and lose him without the consciousness of a severe and abiding wound.

HENRY ALLEYNE NICHOLSON, M.D., D.SC. EDIN., F.R.S.

DR. NICHOLSON, Regius Professor of Natural History in the University of Aberdeen, who died at his residence in that city on Jan. 19th, was born at Penrith, Cumberland. He received his early education at Appleby Grammar School, and afterwards commenced his scientific studies in the University of Gottingen. From 1862 to 1867 he studied medicine and the natural sciences at Edinburgh University, graduating M.B., C.M., in the latter year with first-class honours in all the subjects of examination and carrying off also the gold medal of the University for his thesis on the geology of his native county. In 1866, on obtaining the degree of B.Sc., he was awarded the Baxter Scholarship as the most distinguished science graduate of the year. In 1867 he graduated as D.Sc., and in 1869 on taking the degree of Doctor of Medicine he gained the Ettles Medical Scholarship as the most brilliant medical graduate of the year. During the next two years he was lecturer on natural history in the Extra-Academical School of Medicine, Edinburgh, and from 1871 to 1874 filled the chair of Natural History in the University of Toronto, Canada, making important researches during his stay in the Dominion. After two sessions' occupancy of the chair of Biology in the College of Physical Science in Newcastle in the home country, Dr. Nicholson was appointed Professor of Natural History in the University of St. Andrews, where he practically created the study of the subject and where he remained for six years. In 1877 he was chosen by the British Museum trustees as Swiney lecturer in Geology in succession to Dr. W. B. Carpenter, and he delivered four courses of lectures, partly palæontological and partly geological. In the beginning of May, 1882, he succeeded Professor Cossar Ewart in the Natural History chair at Aberdeen University, where he established an entirely new department of geology, both systematic and practical, and where he was up to within a few days of his death a most successful teacher. Dr. Nicholson was not only an accomplished lecturer, but was also a prolific author on geological and zoological subjects. Among his systematic treatises are "The Ancient Life History of the Earth" (1877) and "Manual of Palæontology" (1872—second edition in 1879). In 1897 he was elected a Fellow of the Royal Society of London. Dr. Nicholson was a thorough master of the subjects in his department and was very popular with the students and with his fellow professors, who feel that his death is a great loss to the University of Aberdeen. The funeral took place on Jan. 21st from the Mitchell Hall, Marischal College, and was largely attended by the members of the University Court and other academic bodies, the students, and the general public. Dr. Nicholson is survived by a widow, three sons, and two daughters.

JOHN DUNCAN, M.A., M.D., C.M. ABERD.

DR. JOHN DUNCAN died at his residence, Bideford, North Devon, on Jan. 13th, at the age of forty-two years. The deceased was a son of the Rev. J. Duncan of Aberdeen, and he received his education at the university of that town. He was awarded the Shepherd gold medal in surgery in 1884, and he graduated M.A., M.B., C.M. in 1885, taking the M.D. degree in 1895. He went to Bideford fourteen years ago as assistant to the late Dr. Cox, whose partner he shortly afterwards became, ultimately succeeding to the practice. Dr. Duncan, who was unmarried, was *greatly respected*, and much regret is felt in Bideford at his early death.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed the Preliminary Science Examination in Chemistry, Physics, and Practical Chemistry for the Diploma in Dental Surgery at the January meeting of the examiners, viz.:—

Mr. *Sydney Clifford, Birkbeck Literary and Scientific Institute; and* Mr. Robert Walker Craig, Wyggeston School, Leicester.

Two gentlemen were referred to their studies for three months.

The following arrangements for the lectures at the Royal College of Surgeons of England are announced: On Monday, Feb. 6th, Wednesday, Feb. 8th, and Friday, Feb. 10th, Professor Leonard E. Hill (Hunterian Professor) will deliver his lectures on "Researches on the Influence of Gravity on the Circulation." On Monday, Feb. 20th, Wednesday, Feb. 22nd, and Friday, Feb. 24th, Dr. T. Grigor Brodie will deliver the Erasmus Wilson lectures on "The Chemical Pathology of some Infective Diseases." Mr. Berkeley G. A. Moynihan will deliver the Arris and Gale lectures on Monday, Feb. 27th, Wednesday, March 1st, and Friday, March 3rd, on "The Anatomy and Surgery of the Peritoneal Fossæ." On Monday, March 6th, Wednesday, March 8th, and Friday, March 10th, *Professor Frederick G. Parsons* (Hunterian Professor) will lecture on "Joints of Mammals contrasted with those of Man." Professor Charles Stewart, F.R.S. (Hunterian Professor), will deliver six lectures on "*Alteration of Generation* and Recent Additions to the Museum" on Monday, March 13th, Wednesday, March 15th, Friday, March 17th, Monday, March 20th, Wednesday, March 22nd, and Friday, March 24th. The lectures will be delivered in the theatre of the College at 5 P.M. each day. The Hunterian Oration will be delivered on Tuesday, Feb. 14th, by Sir William Mac Cormac, Bart., K.C.V.O., President of the College, in the theatre of the College at 4 P.M. precisely.

SOCIETY OF APOTHECARIES OF LONDON.—In January the following candidates passed in the subjects indicated:—

Surgery.—F. M. Aldred, Liverpool; R. L. Argles, St. Mary's Hospital; H. H. Cotman (Section II.), Aberdeen and London Hospital; K. Grube, Bonn; R. R. Mowll (Section I.), King's College Hospital; A. Robinson, Leeds; S. Southam, Westminster Hospital; L. K. Tickner, Durham; H. Whittaker, *Cambridge; and* C. H. Williams, St. Bartholomew's Hospital.

Medicine.—R. B. P. S. Bowker, Middlesex Hospital; A. E. Freer, Edinburgh and St. Mary's Hospital; S. H. Longhurst, Guy's Hospital; D. V. Lowndes (Section II.), Westminster Hospital; G. S. Moore, London Hospital; and R. R. Mowll (Section I.), King's College Hospital.

Forensic Medicine.—R. R. P. S. Bowker, Middlesex Hospital; R. R. Mowll, King's College Hospital; and L. Liebster, Vienna and London Hospital.

Midwifery.—H. C. Cooper, St. George's Hospital; H. R. Cross, Leeds; H. Fawcett, Cambridge and London Hospital; E. J. Gruchy, London Hospital; W. M. McLoughlin, University College Hospital; C. G. Meade, St. Bartholomew's Hospital; and C. H. St. M. W. Toke and H. E. Weston, St. George's Hospital.

The diploma of the Society was granted to the following candidates entitling them to practise medicine, surgery, and midwifery: Messrs. F. M. Aldred, R. L. Argles, H. H. Cotman, E. A. Gruchy, and A. Robinson.

THE INSTITUTE OF CHEMISTRY OF GREAT BRITAIN AND IRELAND.—At the January examinations the following candidates were successful:—

Practical Examination for the Associateship.—A. J. Chapman, F. E. P. Forster, and G. P. Lishman.

Intermediate Examination.—S. Aston, W. L. Blackman, B. R. Coysh, H. D. Hewitt, A. Hill, H. W. Kinnersley, J. Rogers, F. Shedden, and L. Wright.

Final Examination for the Associateship.—J. Golding, W. C. Hancock, A. Marshall, J. Imrie, R. Wild, W. S. Gilles, P. J. Hinks, T. F. Joyce, J. F. H. Gilbard, C. A. Hackman, and F. S. Young.

PAN-AMERICAN MEDICAL CONGRESS. — The Chicago *Railway Surgeon* of Nov. 29th, 1898, states that the Third Pan-American Medical Congress, which was appointed to be held in Caracas, Venezuela, in December, 1899, has been postponed on account of political troubles and an epidemic of small-pox and will be held in Caracas in December, 1900.

PRESENTATION TO A MEDICAL MAN. — On Jan. 16th Mr. Josiah Blomfield, M.D. Aberd., F.R.C.S. Eng., the medical officer of the Licensed Victuallers' Asylum, Old Kent-road, was the recipient from the inmates of that institution of an address handsomely illuminated on vellum, framed and glazed, as a testimony of his uniform kindness and medical skill to them and their predecessors during his fifty years of official service as medical officer. The presentation was made on behalf of the subscribers by Mr. Annett, the secretary of the asylum.

UNIVERSITY OF CAMBRIDGE. — On Jan. 19th the following medical degrees were conferred:—M.D.: E. A. R. Newman, B.A., Caius; M.B. and B.C.: C. R. Reissmann, B.A., St. John's; B.C.: E. C. Taylor, B.A., St. John's.—The contributions to the recently-established Benefaction Fund now amount to over £8500 and include £1000 from Lord Iveagh. A considerable number of the donations are for the rebuilding of the Medical School.—Mr. Strangeways-Pigg, Demonstrator of Pathology, who was conducting the classes during the vacancy of the professorship, has unfortunately fallen ill. His work will be carried on for the present by Dr. Drysdale, of St. Bartholomew's Hospital and St. John's College.

PRIZES OF THE PARIS ACADEMY OF SCIENCES.—The *Revue Scientifique* of Dec. 24th, 1898, publishes the awards of prizes made by the Paris Academy of Sciences and announced at the public annual meeting held on Dec. 19th. The prizes in medicine, surgery, and allied subjects were as follows:—Prix Montyon, of 7500 fr.: a prize of 2500 fr. was awarded to M. Widal for his researches on the Agglutinating Power of Serums; a prize of 2500 fr. was awarded to M. Bard for his works on Cellular Specificity; and a prize of 2500 fr. was divided between MM. Poncet and Bérard for their clinical treatise on Actinomycosis in the Human Subject. Prix Barbier, of 2000 fr., awarded to M. J. *Comby for his* Researches on Rickets. Prix Bréant, of 100,000 fr.: a prize the value of which was not stated was awarded to M. Phisalix for his Researches and *Discoveries* in Chemical Vaccines. Prix Godard, of 1000 fr., divided between M. B. Motz for a contribution to the Histology of Hypertrophy of the Prostate and M. F. Guiard *for* a Treatise on Blennorrhagia. Prix Bellion, of 1400 fr., awarded to M. Castaing for a memoir on the Ventilation of Buildings. Prix Mége, of *10,000 fr., divided between* MM. Labadie-Lagrave and Félix Legueu for their treatise on Medical and Surgical Gynæcology. Prix Lallemand, of 1800 fr., divided between Mr. Edward Phelps Allis for his memoir entitled "The Cranial Muscles and First Spinal Nerves of Amia Calva," and M. A. Thomas for a work on the Anatomy and Physiology of the Cerebellum. Prix Larrey, of 1000 fr., awarded to MM. J. Regnault and De Raoult for a work on the subject of Walking. Prix Montyon, of 750 fr., awarded to M. J. Tissot for a work on the Force Exercised by Muscle in Contracting. Prix Pourat, of 1400 fr., *for* investigation of the Motor Innervation of the Stomach, awarded to MM. D. Courtade and J. F. Guyon. Prix Philipeaux, of 890 fr., awarded to M. Moussu, for researches on the Functions of the Parathyroid Glands.

The Duchess of Albany opened a new Nurses' Home attached to the Chelsea Hospital for Women on Jan. 20th and subsequently paid a visit to the hospital.

Bristol Dispensary.—The annual meeting of the Bristol Dispensary was held on Jan. 13th. The medical report showed that 11,771 patients had been treated during 1898. The receipts amounted to £3124. The committee much regret the resignation of the honorary treasurer, Mr. F. J. Fry, who has been connected with the institution for the past forty-two years.

The Recovery of Medical Fees.—At the Barry County Court on Jan. 10th Mr. Patrick Kelly, L.R.C.P. Edin., L.R.C.S. Irel., sued a man for £4 10*s.* for medical attendance. Owing to the nature of the case Mr. Kelly would not give full particulars in court and as he also had not supplied them to the defendant the judge adjourned the case for a month in order that he might do so, ordering Mr. Kelly to pay the costs of the day.

Diamond Jubilee Memorial at Margate.—The enlargement of the Cottage Hospital at Margate which was undertaken in commemoration of Her Majesty's Diamond Jubilee upon the suggestion of Mr. Bertram Thornton, has recently been in progress, and on Thursday, Jan. 19th, the new central block of the hospital was opened by the Right Hon. James Lowther. The original "cottage" which formed the nucleus of the institution has been entirely pulled down, leaving the added Lucas and Wilcox wards and the operating room. On the vacant site and part of the front garden a large building has been erected, with all the requirements of a modern hospital.

Bradford and District Medico-Ethical Society.—The annual general meeting of this society was held on Jan. 18th at the Midland Hotel, Bradford. There was a large attendance, the following gentlemen being present: Dr. C. F. M. Althorp, Dr. S. Johnston, Mr. I. Mossop, Mr. E. G. Peck, Dr. R. Hamilton, Mr. P. E. Miall, Dr. Bell Graham, Dr. T. C. Denby, Dr. W. Horrocks, Dr. J. H. Bell, Dr. F. W. Eurich, Dr. W. A. Evans, Dr. D. Goyder, Mr. W. J. Parkinson, Dr. A. Manknell, Dr. F. K. March, Mr. H. J. Butler, Mr. R. Love, Dr. T. Jason Wood, Dr. B. Hall, Dr. A. Rabagliati, Dr. A. Bronner, Mr. G. H. Moorhead, and Mr. W. Handcock. The usual business of the society was transacted and the following is a list of the officers elected for the ensuing year:—President: Mr. P. E. Miall. Vice-President: Dr. T. C. Denby. Treasurer: Dr. F. K. March. Secretaries: Dr. W. Horrocks and Dr. A. Manknell. Committee: Dr. C. F. M. Althorp, Dr. D. Goyder, Dr. J. H. Bell, Mr. I. Mossop, Dr. A. Rabagliati, and Mr. H. J. Butler. Auditors: Mr. W. J. Parkinson and Mr. E. G. Peck.

Literary Intelligence.—Messrs. Williams and Norgate's book circular for December, 1898, announces the early appearance of the following medical and surgical works: vol. xxviii. of the "Jahresbericht über die Leistungen und Fortschritte auf dem Gebiete der Ophthalmologie"; vol. ii. of the "Traité de Microbiologie," by Duclaux (vol. i. was issued in the early part of 1898); vol. i., for the year 1897, of the "Jahresbericht über die Leistungen und Fortschritte auf dem Gebiete der Neurologie und Psychiatrie," edited by Professor E. Mendel, Dr. L. Flatau, and Dr. L. Jacobson; a second and enlarged edition of the "Atlas des Menschlichen Gehirns und des Faserverlaufes," by Dr. Edward Flatau of Berlin; "Experimentelle Studien über die Fettgewebsnekrose des Pankreas," by Dr. A. Katz and Dr. F. Winkler of Vienna; "Anleitung zur Uebungs-behandlung der Ataxie," by Professor A. Goldscheider. The forthcoming part of the "Beiträge zur Klinischen Chirurgie" will contain an illustrated article on the Dum-Dum Bullet and its Effect on the Human Body by Professor von Bruns who has already written on the subject.

BOOKS, ETC., RECEIVED.

Baillière, J. B., et Fils, Paris.
L'Exercice de la Médecine et le Charlatanisme. Par P. Brouardel. 1899.
Les Glycosuries non-diabétiques. Par G. Roque. 1899.

Baillière, Tindall, and Cox, King William-street, Strand, London.
Dictionary of Medical Terms: English-French. By H. De Meric, M.R.C.S. 1899. Price 5*s.* net.

Bowden, Jas., Henrietta-street, Covent-garden, London.
The Secret of Good Health and Long Life. By H. Brown, L.R.C.P., L.R.C.S. Edin. Second edition. 1898.

Blakiston's Son, and Co., Philadelphia.
A Practical Handbook on the Muscular Anomalies of the Eye. By H. F. Hansell, A.M., M.D., and W. Reber, M.D. Illustrated. 1899.

Carré, Georges, et C. Naud, Paris.
Introduction à l'Étude de la Médecine. Par G. H. Roger. 1899.

Churchill, J. & A., Great Marlborough-street, London.
Guy's Hospital Reports. Edited by H. C. Perry, M.A., M.D., and W. H. A. Jacobson, M.A., M.Ch. Vol. LIII. Being Vol. XXXVIII. of the Third Series. 1898.
St. Thomas's Hospital Reports. New Series. Edited by Dr. H. Mackenzie and Mr. G. H. Makins. Vol. XXVI. 1898. Price 8*s.* 6*d.*

Eaton & Mains, New York.
Extemporaneous Oratory. By J. M. Buckley, LL.D.

Johnston, W. & A. K., Edinburgh and London.
The Anatomy of Labour, as Studied in Frozen Sections and its Bearing on Clinical Work. By A. H. F. Barbour, B.Sc., M.D., F.R.C.P. Edin. Second edition. 1899.

Lewis, H. K., Gower-street, London.
Ambulance Lectures: First Aid to the Injured. By S. Osborn, F.R.C.S. Fourth edition. Illustrated. 1899.

Local Government Journal Office, Dorset-street, Fleet-street, London.
The Local Government Annual: An Official Directory. 1899. Edited by S. Edgcumbe-Rogers. Price 2*s.* 6*d.*

Maclehose, James & Sons, Glasgow.
Glasgow Hospital Reports. Vol. I. Illustrated. 1898.

Macmillan & Co., London.
Vaccination, its Natural History and Pathology. By S. M. Copeman, M.D. 1899. Price 6*s.*

Rebman Publishing Company, Shaftesbury-avenue, London.
Archives of the Roentgen Ray. November, 1898. Edited by T. Moore, F.R.C.S., and E. Payne, M.A. Cantab. 1898.
An American Text-book of the Diseases of Children. By American Teachers. Edited by L. Starr, M.D., assisted by T. S. Westcott, M.D. Second edition. 1898. In two volumes.
The Diseases of the Stomach. By W. W. Van Valzah, A.M., M.D., and J. D. Nisbet, A.B., M.D. Illustrated. 1899.
A Clinical Text-book of Medical Diagnosis. By C. Vierordt, M.D. Authorised Translation, with Additions, by F. H. Stuart, A.M., M.D. Fourth American edition from the fifth German. Illustrated. 1898.
The Surgical Complications and Sequels of Typhoid Fever. By Wm. W. Keen, M.D., LL.D., and as an Appendix the Toner Lecture, No. 5. 1898.
An American Text-book of Gynecology, Medical and Surgical. Edited by J. M. Baldy, M.D. Second edition. Illustrated. 1898.

Robert Smith Printing Company, Lansing.
Thirtieth Annual Report of Births, Marriages, and Deaths in Michigan for the Year 1896. By the Secretary of State of the State of Michigan. 1898.

Scientific Press, Southampton-street, Strand, London.
George Harley, F.R.S. The Life of a London Physician. Edited by his daughter, Mrs. Alec Tweedie. 1899. Price 16*s.*
Poison Romance and Poison Mysteries. By C. J. S. Thompson. 1899. Price 6*s.*

Smith, Elder and Co., Waterloo-place, London.
Albuminuria and Bright's Disease. By Nestor Tirard, M.D., F.R.C.P. Illustrated. 1899. Price 12*s.* 6*d.*

State Hospitals Press, at *Utica, N.Y.*
The Archives of Neurology and Psychopathology. Published under the auspices of the New York State Hospitals and the Pathological Institute. Vol. I. 1898. Nos. 1-2. 1898.

Swan Sonnenschein and Co., Paternoster-square, London.
Sanatoria for Consumptives in Various Parts of the World. By F. R. Walters, M.D., M.R.C.P. With an Introduction by Sir R. D. Powell, Bart., M.D., F.R.C.P. 1899. Price 10*s.* 6*d.* net.

Whitaker & Sons, Warwick-lane, Paternoster-row, London.
A Directory of Titled Persons for the Year 1899: a Companion to Whitaker's Almanack.

Wiley, J. & Sons, New York, and Chapman & Hall, London.
A Text-book of Physiological Chemistry. By C. Hammarsten. Authorised Translation from the Author's Third German Edition, by J. A. Mandel. Second Edition. 1898.

Transactions of the American Orthopedic Association. Twelfth Session, held May, 1898. Vol. xi. 1898 (Published by the Association, Philadelphia).—Transactions of the American Gynecological Society. Vol. xxiii., *for the year* 1898 (Wm. J. Dornan, Printer, Philadelphia). Magazines, &c., for February: Strand Magazine, Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Ludgate Magazine, Westminster Review, Contemporary Review, Friendly Greetings, Myra's Journal, Pall Mall Magazine, Windsor Magazine, Cornhill Magazine, Blackwood's Magazine, Pearson's Magazine, English Illustrated Magazine, Knowledge, Humanitarian, St. Peter's Magazine.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

Booth, P. L., M.R.C.S., has been appointed Honorary Surgeon to the North Lonsdale Hospital, Barrow-in-Furness.

Crawford, J. J., M.B., B.Ch. Univ. Dub., has been appointed Resident Medical Officer to the Victoria Hospital, Burnley.

Dent, E. A., M.B., C.M. Edin., has been appointed Medical Officer for the Third Sanitary District of the Cheltenham Union.

Emanuel, J. G., M.B., B.S., B.Sc. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Officer to the City of London Hospital for Diseases of the Chest, Victoria-park, E.

Eyres, H. M., M.B., C.M. Edin., has been appointed a Medical Officer for the Scorton and Catterick Sanitary Districts of the Richmond (Yorks) Union.

Farmer, Gabriel William Stahel, M.A., M.B., M.Ch. Oxon., F.R.C.S., has been appointed Honorary Surgeon to the Radcliffe Infirmary, Oxford, vice W. L. Morgan, resigned.

Garbutt, J. G., M.R.C.S., L.S.A., has been appointed Medical Referee to the City of London Electric Lighting Company, Limited.

Kendrick, G., L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer for the Bilston No. 5 Sanitary District of the Wolverhampton Union.

Killick, C. R., M.B. Lond., L.S.A., has been appointed a Medical Officer for the Workhouse and the Williton Sanitary District of the Williton Union.

Lapthorn, C. A., F.R.C.S. Edin., L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer and Public Vaccinator for the Littlehampton Sanitary District and Medical Officer for the Workhouse, vice F. C. Bryan.

MacConkey, A. T., B.A., M.B., B.C. Cantab., D.P.H. Camb., has been appointed Assistant to the Bacteriologist of the Royal Commission on Sewage Disposal.

Messenger, T., F.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Medical Officer for the Bowness Sanitary District of the Wigton Union.

Nix, R. E., M.B., B.C. Camb., has been appointed a Medical Officer for the Third Sanitary District of the Thingoe Union.

Procter, J. A., L.S.A., has been appointed a Medical Officer for the Lydd Sanitary District of the Romney Marsh Union.

Rose, L., M.B., C.M. Edin., has been appointed a Medical Officer for the Second Sanitary District of Newport, Salop.

Rutherford, Alexander, M.B. Edin., has been appointed Honorary Surgeon to the North Lonsdale Hospital, Barrow-in-Furness.

Stanwell, St. John, M.B., C.M. Edin., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Surgeon to the Stamford, Rutland, and General Infirmary.

Stone, F. W. S., L.R.C.P., L.R.C.S. Irel., has been appointed a Medical Officer for the Bitton Sanitary District of the Warmley Union.

Sutcliff, E. H., M.B. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer for the Great Torrington Sanitary District of the Torrington Union.

Williamson, Oliver K., M.B., has been appointed Second House Physician to the City of London Hospital for Diseases of the Chest, Victoria-park, E.

Wilson, J. F., M.D., has been appointed Honorary Surgeon to the North Lonsdale Hospital, Barrow-in-Furness.

Woakes, Claud, M.R.C.S., L.R.C.P., has been appointed Surgeon to the London Throat Hospital.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

Belfast District Asylum.—Assistant Medical Officer, unmarried. Salary £100 per annum, with £50 in lieu of rations, furnished apartments, fuel, lights, washing, and attendance.

Cancer Hospital (Free), Fulham-road, Brompton.—House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

Chelsea Hospital for Women, Fulham-road, S.W.—Pathologist.

City of London Hospital for Diseases of the Chest, Victoria-park.—Pathologist. Salary 100 guineas per annum.

Clayton Hospital and Wakefield General Dispensary, Wakefield. House Surgeon, unmarried. Salary £90 per annum, with board, lodging, and washing.

Consumption Hospitals and Orphan Homes of Scotland, Bridge of Weir.—Resident Medical Officer. Applications to the Hon. Secretary, 141, West George-street, Glasgow.

Coventry and Warwickshire Hospital, Coventry.—Senior House Surgeon for not less than two years. Salary £100 per annum, with rooms in the hospital, board, washing, and attendance.

Hastings, St. Leonards, and East Sussex Hospital, Hastings.—House Surgeon, unmarried. Salary £75 per annum, with board, residence, and laundry expenses.

Huddersfield Infirmary.—Junior House Surgeon. Salary £40 per annum, with board, lodging, and washing.

Leicester Infirmary.—Assistant House Surgeon for twelve months. Honorarium £42, with board, residence in the infirmary, and washing.

Liverpool School of Tropical Diseases in connexion with University College, Liverpool, and the Liverpool Royal Southern Hospital.—Lecturer in Tropical Diseases. Salary £250 a year and proportion of students' fees, with the right of private

London Throat Hospital, Great Portland-street.—

Manchester Clinical Hospital for Women and Children.—Honorary Pathologist.

Monkwearmouth and Southwick Hospital.—House Surgeon, unmarried. Salary £80 per annum, with board, residence, washing.

Morpeth Dispensary, Beechfield, Morpeth.—House Surgeon, unmarried. Salary £120 per annum, with furnished rooms, coal, and gas.

National Orthopædic Hospital, 234, Great Portland-street, London.—A Surgeon's Registrar.

National Sanatorium for Consumption and Diseases of the Chest, Bournemouth.—Lady Superintendent. Salary commencing at £60 per annum, with board, lodging, and washing.

Norfolk and Norwich Hospital, Norwich.—Assistant to House Surgeon for six months. Honorarium £20, with board, lodging, and washing.

North London Hospital for Consumption and Diseases of the Chest, Mount Vernon, Hampstead.—Resident Medical Officer for one year. Applications to the Secretary, Offices, 41, Fitzroy-square, W.

Royal Edinburgh Asylum.—Fourth Assistant Physician. Also Resident Clinical Clerk.

Royal Eye Hospital or Royal South London Ophthalmic Hospital, Southwark, S.E.—House Surgeon. Salary £50 per annum, with full board and residence in the hospital.

Royal London Ophthalmic Hospital, Moorfields, E.C.—Physician.

Sheffield Union.—Assistant Medical Officer (single or widower), to reside at the Union Workhouse, Fir Vale, Pitsmoor, for twelve months. Salary £100 per annum, with apartments, rations, and other usual allowances. Also Junior Assistant Medical Officer, the Workhouse Infirmary, Fir Vale, Sheffield, for six months, unmarried. Furnished apartments, board, and washing. Honorarium of £12 will be granted. Applications to the Clerk to the Guardians, Union Offices, West Bar, Sheffield.

St. Mary's Children's Hospital, Plaistow, E.—Assistant Resident Medical Officer for six months. Salary at the rate of £50 per annum, with board, lodging, and washing.

St. Mary's Hospital, Paddington.—Casualty Physician for one year. Salary £75 per annum.

Staffordshire General Infirmary, Stafford.—Assistant House Surgeon. Salary £30 per annum, with board, lodging, and washing.

Township of Toxteth Park.—Senior Assistant Medical Officer for the Workhouse and Infirmary. Salary £100 per annum, with board, washing, and apartments. Subject to certain conditions. Applications to the Clerk to the Guardians, 15, High Park-street, Liverpool.

Births, Marriages, and Deaths.

BIRTHS.

Burland.—On Jan. 15th, at Finedon, the wife of Herbert Burland, M.R.C.S., L.R.C.P., of a daughter.

Dickson.—On Jan. 22nd, at Scarsdale-villas, Kensington, the wife of T. Hugh Dickson, M.A., M.B., of a daughter.

Duke.—On Jan. 22nd, at Winslowe, Hewlett-street, Cheltenham, the wife of Allen Forrester Duke, M.R.C.S., of a son.

Elliott.—On Jan. 21st, at Cranford, St. Annes-on-the-Sea, the wife of A. Campbell Elliott, M.B., C.M., of a daughter.

Fegan.—On. Jan. 16th, at Old Charlton, Kent, the wife of F. Ardra Fegan, M.R.C.S., L.R.C.P., L.S.A., of a son.

Goddard.—On Jan. 18th, at his residence, Norfolk-crescent, Hyde-park, W., the wife of Walter Horace Goddard, M.D., M.A. Cantab., of a daughter.

Winn.—On Jan. 21st, at King Edward-road, Hackney, the wife of T. C. Winn, M.R.C.S., of a son.

MARRIAGES.

Booth—Shipman.—On Jan. 19th, at St. Wulfram's, Grantham, the Rev. Harold Booth, of Hepple Parsonage, Rothbury, second son of the late William Booth, Esq., of Oran, Catterick, Yorks, to Edith, daughter of George W. Shipman, of Grantham.

Clarke—Gee.—On Jan. 19th, at St. John the Baptist's Church, Leicester, Astley Vavasour Clarke, M.D. Cantab., eldest son of Julian St. Thos. Clarke, M.D., of Norwood House, Leicester, to Ethel Mary (Poppy), eldest daughter of H. Simpson Gee, J.P., of Knighton Frith, Leicester.

Skinner—Monkhouse.—On Jan. 24th, at St. Clement's Church, Hastings, John Rutherford Skinner, M.B., C.M., of Winchelsea, Sussex, to Helen Charlotte, younger daughter of the late Rev. John Monkhouse, of Oakley Rectory, Basingstoke, and Robertson-terrace, Hastings.

DEATHS.

Bowes.—On Jan. 16th, suddenly, at Symnel, Aldington, Kent, Bowes, M.R.C.S., L.S.A., eldest son of the late William Bowes, of Elham, Kent, aged 59.

Coats.—On Jan. 24th, at 8, University-gardens, Glasgow, Joseph Coats, M.D., Professor of Pathology, Glasgow University.

Evans.—On Jan. 8th, at his residence, Tanyronen, Portmadoc, Henry Evans, M.R.C.S. Eng., L.R.C.P. Edin., and L.S.A., aged 48 years.

Goodman.—On Jan. 20th, at his residence, Coombe House, Weaver, Cullompton, Devon, Godfrey Goodman, Fleet Surgeon R.N. (Retired), aged 63 years.

Schön.—On Jan. 22nd, at Bridge, near Canterbury, Charles Henry Schön, M.R.C.S., L.S.A., fourth son of the late Rev. J. F. Schön, of New Brompton, Chatham, aged 44.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births,

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 26th, 1899.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall	Solar Radia in Vacuo	Maximum Temp. Shade.	Min Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Jan. 20	29·75	S.W.	0·03	60	55	46	46	47	Cloudy
" 21	29 47	S.W.	0·20	69	56	47	52	51	Stormy
" 22	29 40	S.W.	0·05	79	55	46	47	52	Cloudy
" 23	29 69	W.	0·04	45	45	44	44	45	Raining
" 24	30·33	N.	0·05	Not taken	45	36	37	38	Cloudy
" 25	30·61	N.E.	...		41	33	33	34	Hazy
" 26	30·64	N.E.	...		43	34	31	36	Hazy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1 30 P.M.), St. Mark's (9 30 A.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.), London Throat (2 P.M.).

TUESDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (1st).—St. Bartholomew's (1.30 P.M.), University College, (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9 30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (2nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1 30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.).

FRIDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.)

SATURDAY (4th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9 15 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.)

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1 30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (30th).—SOCIETY OF ARTS.—8 P.M. Dr. S. Rideal: Bacterial Purification of Sewage. (Cantor Lecture.)

TUESDAY (31st).—CHILDHOOD SOCIETY (Library of the Sanitary Institute, 72, Margaret-street, W.)—8 P.M. Dr. F. Warner: Mental Abilities and Disabilities of Children.

WEDNESDAY (1st).—OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by Dr. J. Phillips, Dr. Cullingworth, Dr Des Vœux, and others. Annual Meeting Dr. Cullingworth (President): Annual Address.

THURSDAY (2nd).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road).—8.30 P.M. Clinical Evening.

NEUROLOGICAL SOCIETY OF LONDON (11, Chandos-street, W.).—8.30 P.M. Annual General Meeting. Dr W. H. Gaskell: The Meaning of the Cranial Nerves. (President-elect's Inaugural Address.)

FRIDAY (3rd).—WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, Hammersmith, W.)—8 15 P.M. Discussion on the Treatment—Medical and Surgical—of Acute Inflammation of the Vermiform Appendix, introduced by Dr. S. Taylor and Mr. McAdam Eccles, and carried on by Dr. D. Hood, Mr. C. B. Keetley, Dr. S. Smith, Mr. L. A. Bidwell, Dr. H. A. Caley, and others.

WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich-road, S.E.).—8 45 P.M. Clinical Meeting. Dr. D. Grant: Cases of Chronic Suppuration of the Frontal Sinus and Antrum of Highmore treated exclusively through the Nose with good result. Council Meeting.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by the President, Dr. de H. Hall, Mr. Bowlby, Mr. Robinson, Dr. Potter, Sir F. Semon, Dr. Hill, and others.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (30th).—WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. C. B. Keetley: The Surgical Uses of Plaster of Paris and of Poroplastic.

THE ROYAL INSTITUTE OF PUBLIC HEALTH (Rooms of the Royal Medical and Chirurgical Society, 20, Hanover-square, W.).—8 30 P.M. Prof. S. Martin: Tuberculosis.

TUESDAY (31st).—WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—4 P.M. Dr. T. D. Savill: Cases of Acroparæsthesia and other Angio-neuroses.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3 30 P.M. Dr. Ormerod: Ataxy.

WEDNESDAY (1st).—EVELINA HOSPITAL (Southwark-bridge-road, S.E.).—4.30 P.M. Dr. N. Tirard: Clinical Demonstration on Medical Cases from the Wards. (Post-Graduate Course).

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Sir R. D. Powell: Mitral Stenosis.

THURSDAY (2nd).—WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. C. B. Keetley: Injuries and Deformities of the Hip and Knee.

CHARING-CROSS HOSPITAL.—4 P.M. Dr. Eden: Gynæcological Demonstration. (Post-Graduate Class.)

LONDON TEMPERANCE HOSPITAL.—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration to Senior Students.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1898, which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in THE LANCET of Jan. 7th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1898 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 6*d.*

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THE HUMOURS OF SCHOOL INSPECTION.

WE always suspect the funny answers at examinations which we now and again read in the press of having been concocted, but the paper in the current *Cornhill* from the pen of a school inspector appears to be a record of actual experiences. Science, as usual, comes off badly: "The equator is an imaginary line going round the earth once in every twenty four hours," and medicine even worse: "The diaphragm is a *serious* petition between the thorax and the abdominal regions;" "The bowels are five in number—a, e, i, o, and u;" "Oxygen, hydrogen, and a little carbon is the best food for infants."

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ABSTRACT OF

An Address

ON

THE PREVENTION OF PHTHISIS, WITH SPECIAL REFERENCE TO ITS NOTIFICATION TO THE MEDICAL OFFICER OF HEALTH

Being an Introduction to a Discussion on the Subject at a Meeting of the Incorporated Society of Medical Officers of Health on Jan 13th 1899,

By ARTHUR NEWSHOLME, M D,
F R C P LOND,
MEDICAL OFFICER OF HEALTH OF BRIGHTON EXAMINER IN STATE AND PREVENTIVE MEDICINE TO THE UNIVERSITIES OF LONDON AND OXFORD

NATURE OF TUBERCULOSIS

GENTLEMEN,—Our views as to tuberculosis have been fundamentally changed by the discovery of Koch s bacillus tuberculosis Tuberculosis having been shown to be an infective disease it is natural to jump to the conclusion that it is spread by direct or indirect personal infection This is not necessarily the case Tetanus is an infective disease the contagion of which is widely present in the soil but it is not communicable except under the most unusual conditions Rheumatic fever, again, is an infective disease which is ordinarily non-communicable The evidence of such pioneers as Cornet, Niven, and Ransome and the gradually accumulating evidence of other observers makes it quite clear that under certain conditions phthisis is actively infective

The following cases taken from my annual report for 1894 are illustrations of similar facts which although they may singly be explained as coincidences force one to the conclusion that infection is at work when we remember that similar cases occur time after time in particular houses among members of different families

A woman aged 40 years, died from phthisis She had been married twice both husbands having died before her from phthisis The history indicated that she had probably acquired the disease from her first husband and had given it to her second husband in whom it ran a more rapid course than in herself

A man aged 47 years died from phthisis in October 1894 after an illness of several years His daughter who helped to nurse him died in January 1894 from phthisis

On Jan 19th 1894 a boy aged eight years died from phthisis a sister having succumbed to the same disease in December 1891 On Jan 14th 1894 a lodger s child aged 12 months, who had lived in the house since his birth died from tuberculous meningitis.

We need in the next place to differentiate between diseases which are infective to all and diseases which are infective only to a minority Tuberculosis undoubtedly comes under the latter category The difference in incidence of infection between tuberculosis and such diseases—such as diphtheria enteric fever, and scarlet fever—is simply one of degree In my own family there has been a complete immunity from scarlet fever of every member during three generations notwithstanding frequent exposures to the disease

It is true, as urged by the late Professor Kanthack, that a preponderant proportion of the population enjoy immunity from phthisis, but an appeal to pathological anatomy shows that a very large proportion of the population dying from other diseases has in the lungs what may be described as the scars resulting from a successful fight against phthisis while the national statistics show that between the ages of 15 and 55 years more than one fourth of the total deaths from all causes are due to phthisis no account being taken of other tuberculous diseases We must set against the fact that phthisis is infective to a minority of the population only the fact that it is infective for a prolonged period The lesser intensity of infection is probably more than counterbalanced by its longer duration The breath of the phthisical patient being free from infection it is evident that in seeking for means of preventing the disease we must have regard to (1) the infectious discharges from the patient, especially his desiccated sputa and (2) the personal and environmental circumstances which favour the origin of phthisis

If we assume for a moment that the contagion of phthisis has no extra corporeal existence it is evident that we might faintly hope to annihilate the disease by strictly isolating all phthisical patients and destroying their discharges, though our experience of such diseases as small pox (apart from vaccination) would sober any too sanguine expectations In practice segregation of the phthisical patient, except where it is voluntarily undertaken in the interest of the patient, is entirely out of the question Voluntary isolation may be recommended in two directions:—

1 Of the patient himself when the home conditions are unfavourable to his recovery with a view to securing his cure in a well-organised sanatorium

2. The relatives who are particularly prone to fall victims may be removed from the home in which the patient is being treated or has been treated with a great increase of the probability of their escape from the family disease.

It is well to recognise the fact that before phthisis is diagnosed the patient has commonly been expectorating myriads of tubercle bacilli and that consequently attempts to destroy infective material derived from the patient can have only a partial and limited success This consideration has been urged as the standard argument against notification of cases of phthisis and the precautionary measures which would follow as the result of such notification Such reasoning is somewhat short sighted The healthy occupants of a phthisical home may be compared to a city which is the subject of a protracted siege in which the combined effects of arms, starvation, and depressing emotion are at work The inhabitants of such a city may escape with but little damage if the siege is raised at a comparatively early period, but they succumb if it is protracted Similarly the healthy members of a phthisically invaded household may be able to withstand infection if precautionary measures are begun as soon as the nature of the disease is detected and are continued thereafter, but they finally fall victims to the repeated doses of infection if a fatalistic inertia is allowed to prevail and no efficient precautions are taken

THE SAPROPHYTIC QUESTION

The question of the possible saprophytism of the tubercle bacillus raises another range of difficulties Ransome and others have shown that the tubercle bacillus can live on artificial media and even on wall papers at the ordinary temperature of certain rooms This being so and there being presumably a large stock of tubercle bacilli in progress of development in the incubating chambers of nature, why trouble to destroy the tubercle bacilli discharged by each patient? We may, however, reasonably doubt the saprophytism of the tubercle bacillus except to the limited extent that it manages to retain a slender tenure of life under certain extremely favourable extra corporeal conditions The evidence of protracted saprophytism in diphtheria and enteric fever (and I believe also in scarlet fever) is much stronger than in the case of tuberculosis And yet, although the saprophytic stage of life of the contagia of diphtheria and enteric fever indefinitely multiplies their possibilities of infectivity these diseases remain compulsorily notifiable, nor do I anticipate that the Local Government Board will recommend their removal from the list of diseases thus notifiable

[Dr Newsholme then pointed out that the saprophytic bogie idea was likely to do much mischief unless relegated to its proper place Contagion was really the source of trouble and hygienic measures must be directed towards cleanliness light, ventilation, and against damp and access of ground air]

It remains true, however, that the prevention of phthisis is concerned largely if not chiefly with the personal and environmental conditions which favour its origin Now what are the chief predisposing causes of phthisis? Without attempting an exhaustive enumeration the following are probably the most important (1) the habitual breathing of re-breathed air, (2) dusty occupations, (3) dampness and darkness of the dwelling, and (4) chronic alcoholism The prevention of alcoholism is outside the ordinary scope of preventive medicine Its importance, however, deserves a passing notice

SANITARY AUTHORITIES AND PREVENTIVE MEASURES

It will be argued that sanitary authorities (local or central) already have power under existing laws to diminish the operation of respiratory impurities and industrial dust and, possibly to a less extent of damp and dark houses That is a plausible opinion which will probably continue to find favour with those who have no practical experience of local sanitary administration, but it will not bear critical study. Even supposing that there are ample legal enactments against overcrowding and dust it must be admitted that the knowledge of a case of phthisis in connexion with overcrowding or a dusty occupation will enormously strengthen our hands in securing the adoption of the necessary remedies. Many nuisances cannot now in many districts be remedied because support is not obtained from the sanitary authority or the magisterial bench. Would not a medical certificate that a case of phthisis had occurred in the house where the nuisance was found turn the balance in favour of reform?

It is not true, however, that present enactments cover the entire requirements of the case. The knowledge of cases of phthisis would give immense leverage in securing the removal of conditions of defective sanitation which we know to favour phthisis but which *cannot at present* be reached except by judicious persuasion. Take, for instance, the question of enforcing the provision of a staircase window where none now exists and where its absence means blocking of what ought to be the main channel of air and light to the house. In Brighton we have during 1898 secured the insertion of such staircase windows in 126 houses which were previously without them and 81 are now under notice but it would have been extremely difficult to enforce these notices had they been contested. Similar remarks will apply to the enforcement of damp-preventing structural alterations, of windows which can be opened top and bottom, and other arrangements for ventilation, and of notices to remove and destroy wall-papers in rooms where a case of phthisis has been nursed for a long time. It will be argued that information as to the above and allied defects could be obtained apart from notification of cases of phthisis in the course of the house-to-house inspection which is carried out in the majority of districts. This statement implies deficient knowledge of the conditions under which these visits are made. Even in well-organised districts a house is seldom inspected oftener than once a year and it must be evident that if we knew of a case of phthisis in a house immediate cognisance could be taken of and action adopted in respect of conditions favouring phthisis which under other circumstances would probably be delayed for many months and which might have to be entirely omitted in the present state of the education of the public. Our leverage in sanitary operations would be enormously increased if a considerable proportion of the cases of phthisis were notified. Quite apart from the adoption of special precautionary measures against infection the localisation and remedying of house defects as to cleanliness, crowding, and dampness would amply repay for all attempts at the notification of phthisis.

NOTIFICATION OF PHTHISIS.

It being obvious that a more complete knowledge of cases of phthisis would enable more complete preventive measures to be adopted it is not surprising that a number of local sanitary authorities have written to the Local Government Board for permission to add phthisis to the list of notifiable diseases. They have received the following reply which has already been made public property:—

> Local Government Board, Whitehall, S.W.
>
> To the Clerk to the District Council.
>
> SIR,—I am directed by the Local Government Board to advert to your letter of the ......, inquiring whether they would approve an Order extending the provisions of the Infectious Disease (Notification) Act, 1889, to phthisis in the .... District.
>
> In reply I am to state that the Board have hitherto held the view that phthisis is not a disease to which the provisions of the above-mentioned Act could with advantage be applied and in this connexion I am to remind the District Council that many persons who would be notified to them as suffering from phthisis would be individuals whose phthisis is so little advanced that not a few of them may be expected to have many years of life in prospect, during which it will be imperative on them to gain their livelihood. I am to add that the Board do not find in the medical officer of health's report which accompanied your letter any evidence to cause them to modify that view. They therefore would not be willing to approve of the addition of phthisis to the list of diseases notifiable in the .... District under the Act.
>
> I am,
>
> ....
>
> Assistant Secretary.

It is evident from this letter that one of the chief arguments against a compulsory notification of phthisis is held to be the risk of interfering with the means of livelihood of phthisical patients. The same argument is stated in Sir Richard Thorne's Harben Lectures.[1] "It was not desirable that persons suffering from phthisis should occupy the *same* rooms as the healthy, but the notification of such cases in houses of business would be followed by dismissal." The two halves of this sentence are mutually destructive, but that doubtless is owing to the briefness of the abstract. Notification of disease is confidential and if the Local Government Board are afraid of its misuse they can make regulations bearing on this point. The inquiries resulting from notification would in nearly every instance be made at the patient's home, not at his place of business, and with proper provisions there need be (and would be) no interference with business. In the final analysis, if any must suffer, ought it not to be one rather than many? But I repeat that there is not the slightest necessity for anyone to suffer through notification and the medical officer of health through whose action such suffering arose would *speedily find his position so uncomfortable that* the indiscretion would not be repeated.[2]

Then it is stated in the abstract of the lectures above quoted that "notification of phthisis is impracticable and would tend in its results to defeat the end in view." The diseases at present notifiable "were communicable in a high degree and in many ways, but rendered the patient a source of danger for a limited period only. In phthisis not only were these conditions absent, but the patient's position was absolutely the reverse." Thus because the danger in scarlet fever is for a limited period only we must take every possible precaution against it, but the danger of phthisis being protracted we must trust to the casual precautions which the uninstructed patient or the overworked practitioner may carry out on his own initiative. Personally I should be prepared to leave the precautionary measures almost entirely to the medical attendant and his patient, with the stipulation that as medical officer of health I should be informed of each change of address of the patient in order to secure the protection of subsequent tenants of the vacated house. But it is not simply or chiefly a question of personal precautions. The above argument entirely ignores the sanitary aspect of the question. Inspections and control of the home conditions and of the industrial conditions under which phthisis has originated are of the very essence of the means of preventing phthisis. How can we exercise such control when we do not know of a tithe of the total cases and of these only when they prove fatal? The last Factory and Workshops Act contains a clause securing the compulsory notification of anthrax, phosphorus and arsenical poisoning, and of a chronic disease like lead-poisoning *occurring* in connexion with industries. Each of these has an annual number of victims who could almost be counted on the fingers, while thousands of the artisans of this country annually fall victims to phthisis acquired in connexion with their special work. But lead-poisoning must be notified; phthisis is ignored. The non-communicable disease must be notified; the communicable disease is left to carry out its maleficent work. Then we are told above that fevers are "communicable in a high degree and in many ways." Enteric fever, a notifiable disease, is spread almost solely by infection from the dejecta of previous enteric patients; phthisis by the dried sputa of phthisical patients. But there is the "less degree" of infectivity in the latter case. It would be an interesting arithmetical problem to find the sum total of infectivity (call it a) in the month's course of attack of enteric fever and in the from two to three years' average course of phthisis (call it b) when it pursues a fatal course. It is clear, I think, that if x represented the unknown balance on one side of the equation, probably a very large one, it would stand as follows:—

$$a + x = b.$$

Then it is stated: "A little reflection would show the impracticability of carrying out such a course of repeated visitation of hundreds and thousands of houses in large sanitary districts, where already it was found impossible for the medical officer of health to visit all the cases now notified."

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[1] Summary in Public Health, December, 1898, p. 205.

[2] While writing the above I have heard of the case of a clerk who appears to have been discharged from his post because he was phthisical in connexion with the publicity recently given to the dangers arising from the sputa of such patients. If the admirable propagandism of the Association for the Prevention of Tuberculosis is to continue (and we all hope that it will) a certain amount of alarm among those imperfectly informed is inevitable. In all probability nothing would be more successful in removing this unreasonable fear—unreasonable when proper precautions are taken—than the knowledge that cases of phthisis are notified to the medical officer of health who has official charge of any necessarily precautionary measures.

It may be remarked that personal visits by the medical officer of health are not required in every case to ensure the execution of the necessary sanitary improvements and hygienic precautions. The head of a large firm does not conduct every detailed operation in his business, otherwise he would be his own clerk and messenger. But he has full control of the business; he knows its weak points and its strong points and is able to maintain control over its minutest details. Assuming that in a well-organised district each house is inspected at least once in every twelve months we ask, Is it not very desirable that the visits of a large sanitary staff shall be made once in three or four months to a minority of houses in which remedial measures against dirty rooms, overcrowding, damp, and deficient ventilation are of supreme importance, even though this may necessitate a less frequent inspection than once a year of houses the absence of phthisis from which makes such inspections less urgent? Speaking from fifteen years' experience of local sanitary administration in London and in Brighton I have no hesitation in stating my emphatic opinion that the visitation of phthisical houses in which such visits are desirable is not only perfectly practicable, but is of as great importance to the public weal as similar visits in houses where diphtheria or enteric fever has occurred. I protest against the assumption which appears to be so commonly entertained that the official work of the medical officer of health is confined to the "seven chief zymotic diseases" and that tuberculous diseases which cause 50 per cent. more deaths than the aggregate of these seven zymotic diseases and are much more capable of being prevented than are several of them are outside the sphere of his official action. Then we are informed, I hope under some misapprehension, that a distinguished physician has maintained that "the question revolves itself into that of the disposal of the sputa" and has asked "what the sanitary authority would do with the patient when notified." The answer is that so far as the patient is concerned notification need imply, and ought to imply, until experience has shown that more is really necessary, nothing beyond sending to him a precautionary circular such as the following which is used in Brighton:—

PRECAUTIONS FOR CONSUMPTIVE PERSONS.

Consumption is to a limited extent a contagious disease. It is spread chiefly by inhaling the expectoration (spit) of patients which has been allowed to become dry and float about the room as dust.

Do not spit except into receptacles the contents of which can be destroyed before they become dry

If this simple precaution is taken there is practically no danger of infection The breath of consumptive persons is free from infection.

The following detailed rules will be found useful both to the consumptive and to his friends:—

1. Expectoration indoors should be received into small paper bags and afterwards burnt.
2. Expectoration out-of-doors should be received into a suitable bottle, to be afterwards washed out with boiling water, or into a small paper handkerchief which is afterwards burnt
3. If ordinary handkerchiefs are ever used for expectoration they should be put into boiling water before they have time to become dry or into some disinfectant solution to be ordered by the doctor
4 Wet cleansing of rooms, particularly of bedrooms *occupied* by sick persons, should be substituted for "dusting.".
5. Sunlight and fresh air are the greatest enemies of infection. Every consumptive should sleep with his bedroom window open top and bottom and during the day should occupy a well-ventilated room. Re-breathed air is the main cause favouring consumption. If the patient is warmly clad he need not fear keeping out-of-doors in any weather. N.B.—The patient himself is the greatest gainer by the above precautions as his recovery is retarded and frequently prevented by renewed infection derived from his own expectoration.
6. Persons in good health have no reason to fear the infection of consumption. Over-fatigue, intemperance, bad air, and dusty occupations favour consumption.

HOW NOTIFICATION MAY BE LIMITED.

This is all so far as the patient is concerned. If there is any fear on this point effectual legal safeguards can be devised, and I may point out that notification may be compulsorily adopted and its operation limited by Section 58 of the Public Health (London) Act, 1891, to special purposes. It is not all so far as the prevention of phthisis is concerned. The weightier matters of the prevention of phthisis deal with the home and industrial evils which have lowered vitality to such an extent that a dose of infective material which to the healthy would be innocuous has been enabled to secure a foothold and multiply in the patient's lungs. It is unfortunate that the Local Government Board is so unacquainted with local requirements that it has hitherto been unable to entertain the idea of modifications of compulsory notification and of fresh legislation if necessary giving notification for certain purposes of a strictly restricted character. I hope that ere long some local authority will apply to the Local Government Board for permission to enable them to pay practitioners for voluntary notifications of cases of phthisis supplied to them. Such voluntary notification would supply information of the cases of phthisis among the poor which are most important from a preventive standpoint. Nor is there the same objection to paying for a limited notification of phthisis that would hold for such a disease as enteric fever. The absence of complete information in a limited outbreak of enteric fever may prevent one from discovering its origin; but in phthisis every single case notified may be treated alone, and if 25 per cent. of the total cases in a district are notified we can obtain nearly if not quite 25 per cent. of the benefit which would follow in the wake of complete notification. As matters now stand any district or borough other than a county borough which paid fees for such voluntary notification would probably find the accounts disallowed by the Government auditor. It may be asked, why not be contented with the voluntary notification of phthisis? Personally I am at present satisfied with such voluntary notification, which is being made to me by medical officers of public hospitals and dispensaries and by parochial medical officers. It is, however, a hardship that they apparently cannot be paid a fee as in the case of notification of other diseases. I draw attention in this connexion to the resolution passed unanimously at the annual provincial meeting of the Society of Medical Officers of Health at Newcastle-on-Tyne in 1893:—

> That the Society of Medical Officers of Health, while accepting the view that phthisis in an infective disease, in the prevention of which active hygienic measures should be taken, think it premature to recommend the compulsory notification of a chronic disease like phthisis. They are, however, of opinion that it is incumbent on medical officers of health to take such steps as may secure (*a*) the voluntary notification of cases of phthisis by medical officers of public institutions and such medical practitioners as agree that precautionary measures are desirable; (*b*) the adoption of such precautionary measures, including the disinfection of rooms, as can be arranged in conjunction with the family practitioner. For this purpose the memorandum prepared by the North-West Branch of the Incorporated Society of Medical Officers of Health would give an excellent basis of action.

I was responsible for drafting and proposing the above resolution and am contented to continue to act upon it for the present subject to phthisis being placed in the same category as other infective diseases so far as payment for certification is concerned. I venture, however, to protest against the obstructive action of the Local Government Board in not allowing such local authorities as wish for it to adopt the compulsory notification of phthisis. There should be complete local option in this respect and it is only by experiment that progress can be secured. This is not the only respect in which the Local Government Board has *effectively* obstructed local authorities, especially the local authorities of great towns, in their attempts to improve their sanitary enactments and administration. In former years they were content to stand neutral while the great towns secured special enactments of their own, and they subsequently adopted many of these enactments permissively in the Infectious Disease Prevention Act and the Public Health Amendment Act. Latterly they not only refuse to move themselves, but insist on everyone else sitting still. Their action is unfortunate, as the prospects of local sanitary progress at present depend upon the assent if not the cooperation of the Local Government Board. I would heartily increase the present powers of the Local Government Board, which they allow to a very large extent to remain in abeyance, for compelling local authorities to do their duty, but at the same time their power of veto on local authorities who are laudably anxious to extend their responsibilities and their utility should be removed.

It may be inquired, in conclusion, what can be done apart from compulsory notification of phthisis? Dr. Niven and Mr. C. E. Paget (and others) have made serious attempts with the machinery already available and I take this opportunity of acknowledging the magnificent pioneer work of an educational and actively preventive character which they and Dr. Ransome have done. Mr. Paget informs me, however, that during the five years 1893–97 in which voluntary disinfection after phthisis was offered in Salford only 32 houses were thus purified. We are told that one item of the programme of the Association for the Prevention of Consumption is to secure the disinfection of houses in which deaths from phthisis have occurred. The association is apparently unaware in how many towns this is already carried out. The number of rooms cleansed and purified in after deaths from phthisis has been as follows:—

Year.	No. of rooms.	Year.	No. of rooms.
1893...	56	1897...	138
1894...	64	1898...	108
1895...	57		—
1896...	150	*Total in six years*	573

The procedure is that a copy of a circular is sent by post as soon as the weekly death returns come in to the head of the household in which the death has occurred and a visit is made during the week to ensure that the work has been carried out. This has been recently supplemented by a system of voluntary notification of all cases of phthisis removed to the workhouse, the house vacated by the patient being similarly purified. The recommendations of this circular are shortly as follows:—

1. Strip the wall paper off the wall. The paper should afterwards be burnt in the fireplace of the same room.

N.B.—The chief danger is from dust. Hence all articles should be thoroughly wetted before cleansing them. A supply of disinfectant for mixing with the water can be obtained free of cost at the office at the town hall, *but a disinfectant is not essential if everything is thoroughly wetted.*

2. Thoroughly wash the ceilings and floors and walls of the room.

3. Wash all bed-linen and other articles in the room and expose all bedding, pillows, &c., out of doors for several hours in bright sunshine.

For the last five years every death from any form of tuberculous disease has been made the subject of an inquiry under the following heads:—

Deaths from tubercular diseases.—Sex, age, disease, address, name of doctor, date of death, duration of illness, source of milk supply, places of residence during illness, nature of occupation during the last ten years, other cases of allied disease in the family, previous history of the house.

Condition of the house as regards (1) overcrowding, number of occupants (over 10, under 10), number of living rooms and bedrooms; (2) whether animals kept; (3) condition as to dampness, condition as to cleanliness; (4) ventilation; (5) lighting; (6) drainage arrangements; (7) dustbin; (8) size of yard, condition of paving.

I have omitted from my purview tuberculosis derived from the ingesta. The growth of public opinion as to the tuberculin test for cows and as to the provision of public abattoirs is so satisfactory that there is little doubt that valid progress will be made in these respects. I am anxious to confine our attention to the one question of notification of phthisis. I trust that we shall not allow small difficulties of detail to embarrass us. (The question of multiple notifications, for instance, is a very minor matter which can be safeguarded if necessary. Dr. Niven has shown, however, that there is practically no need for this.) If notification is desirable in the interests of the public health it should be adopted and a desirable principle is never impracticable. If limits of official action after notification are desirable there will be no difficulty in devising the scope of these limitations. We have heard so much about the reduction in the mortality from phthisis that the unthinking may lose sight of the enormous mortality still caused by it. Had time permitted I should like to have drawn attention to the erroneous inferences which have been drawn or suggested as arising out of the reduction of tuberculous diseases in adults along with the increased consumption of meat and the stationary mortality from tabes mesenterica along with the infantile use of cow's milk as food, but that must be reserved for another opportunity. I beg finally to recommend to your consideration the desirability of making representations to the Local Government Board urging upon the Board the importance of: 1. Allowing the same local option in respect of the notification of phthisis as of diseases which they at present allow to be added to the schedule of notifiable diseases. 2. Giving powers to local authorities to pay fees for voluntary notification of cases of phthisis. 3. Bringing up to date and codifying other sanitary legislation which has an important bearing on the *prevention of phthisis—e.g., further* precautions against encroachment on open spaces at the rear of dwellings,[3] enactments compelling local authorities to adopt proper by-laws for the erection of new buildings, improvements of the Housing of the Working Classes Act, &c.

A Clinical Lecture

AND DEMONSTRATION ON

LOCAL INFILTRATION ANALGESIA.

Delivered at University College Hospital on Jan. 19th, 1899,

By ARTHUR E. BARKER, F.R.C.S. ENG.,

PROFESSOR OF THE PRINCIPLES AND PRACTICE OF SURGERY AND PROFESSOR OF CLINICAL SURGERY AT UNIVERSITY COLLEGE, AND SURGEON TO UNIVERSITY COLLEGE HOSPITAL.

GENTLEMEN,—For the last eight or nine months I have occasionally been operating on patients for various surgical conditions without using either chloroform or ether, trusting rather to one or other form of "local infiltration analgesia." Several of these cases have, as some of you have seen quite lately, shown such remarkable results as to afford much food for reflection. During all this period I have been endeavouring to make myself familiar with the whole subject of infiltration analgesia by every means in my power. Having seen the method employed abroad where it is largely used and having been much impressed by it it was only rational to get hold of the best and most recent of the now very numerous monographs on the subject and to study them carefully both as regards the physiological and physical theories advanced and the details of the practical application of the latter advocated in them. I confess for myself that I have only recently felt the full importance of the whole subject, though the study of it has been long. This is probably due to the fact that the mere manipulative details of the procedure, without the proper accomplishment of which analgesia is not produced, require considerable practice for their mastery and that at the outset one naturally only employs a new method in carefully selected cases. But of late these have increased in number and I can now claim to have familiarised myself with the procedure sufficiently to have approached the results in even long and serious operations which have already been achieved on a larger scale abroad, and the results I propose now to put before you. If you are at all like myself you will feel for a time a certain amount of distrust of the method and incredulity as to the results claimed for it here and there, but equally if you study the matter fairly you will be forced in the end to the conclusion, as I myself have been, that there is a great deal in "local infiltration analgesia" when properly carried out and that the results claimed for it by those who have employed it in hundreds of cases have not been exaggerated. But that to utilise it safely and extensively demands close study of the procedure on the widest basis is every day more and more clear to me and I hope will become so to you if you listen to my remarks and watch the operations to follow in which I hope to demonstrate the method in question.

To anyone who gives close attention to the practical details of local analgesia induced by the endermic injection of cocaine or eucaine β it must soon become abundantly evident that the procedure does not consist in the mere injection of a certain amount of one or other drug, so to speak, at haphazard into the field of operation. Many factors require to be taken into very careful consideration if we are to approach at all near to the end which we have in view—namely, the safe abolition of pain without the use of general anæsthetics such as chloroform, ether, &c.

When cocaine was first brought to the notice of surgeons many years ago great expectations were entertained as to its application to minor surgery. But experience with the stronger solutions of the drug (which were then considered necessary) soon proved, first, that it was dangerous and, next, that its action as then used in strong solutions was too local for anything but the most limited employment. It was therefore reserved for superficial parts, such as the eye, the mouth, and the anus almost exclusively. And I can well remember how disappointed I was myself in using it 12 or 15 years ago in cases of piles and on the gums and nose. Since then, however, important modifications have been made in the manner of employing these drugs which have led to their widespread use even for some of the greatest operations in surgery.

The primal fact which we have to keep in mind is that cocaine and its salts applied to the trunk of a *sensory nerve* suspend the functions of the latter and abolish the sense of pain in all parts supplied by its terminal ramifications.

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[3] Among the most serious defects of the present law are the following: (*a*) In accordance with the model building by-laws a certain amount of free air space must be allowed at the rear of every dwelling-house. If, however, a person erects a building in his back yard encroaching on this air space and the encroachment is not discovered within six (or under certain possible but exceptional conditions twelve) months from the time of its erection the encroaching building cannot be compelled to be removed. (*b*) In the case of dwellings erected prior to the adoption of any building by-laws it is no offence to erect other buildings upon the open space attached to the *old buildings*, subject to the new buildings themselves *fulfilling the requirements of* the by-laws as to open space. The result of the defects of the law in the above respects is that insanitary areas, the fit breeding place for phthisis, are being produced in nearly every town, particularly in their more central parts.

The first who appears to have made practical use of this fact (which had been published in 1885 in America by Corning and in the same year in Russia by Feinberg, independently of one another) was the French surgeon Reclus, whose method of producing analgesia by the injection of 1 per cent. cocaine solutions into the soft parts layer by layer does not differ in principle from the methods since developed and may be taken as the beginning of what is now known as "local infiltration analgesia." But it was found that even with such a dilute solution as that used by Reclus (= 1 per cent) toxic effects followed in a few cases and that the application of his method had consequently to be limited to very small operations—that is, to operations confined to a small area. But in carrying out the principles underlying Reclus's method Schleich was able by further reducing the concentration of the cocaine solution and by using much greater quantities to extend the method to very much more wide-reaching operations, until now among adult patients it is employed very largely. It appears to me therefore proper that due credit should be given to Schleich for having, as it were, popularised this proceeding by reducing its risks and extending its use, although many of his data and theoretical conclusions were apparently erroneous.

But numerous modifications of Schleich's method also have been made since then in many directions and it has been simplified and improved. One of these improvements introduced by Oberst but foreshadowed by Corning is only applicable so far to the fingers and toes and perhaps to the whole hand and foot. It consists in arresting the return of blood from a member by applying an elastic ligature round its root and then injecting a very moderate amount of the cocaine solution over each of the several nerves of the part.

FIG. 1.

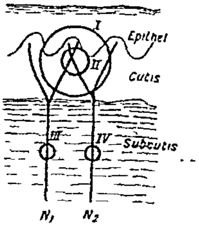

Diagram illustrating field of action of an injection according to the site selected.

This arrest of the circulation in a finger or toe appears to intensify the action of the drug enormously, as shown first by Corning, so that incisions may be made and even the bone gouged out without the slightest pain to the patient, as I have demonstrated within the last few days.

Finally, a modification of Reclus's method which consists in employing a drug of equal analgesic power with cocaine but of far less toxic energy and of bringing up the specific gravity of the solution to about that of the blood by the addition of chloride of sodium has come into use which bids fair to yield the most important results. The *rationale* of this modification I should like now to place before you. It is described in a very able paper by Dr. Braun of Leipsic, read before the Congress of German Surgeons last Easter at which I was present. It is also dealt with in another paper by his assistant, Dr. Heintze, since published.

In the first place, it is based upon the observation that in eucaine β (Benzoyl-trans-vinyl-di-aceton-alk amin) we have a drug which is equal to cocaine in analgesic properties while it is far less poisonous, standing in the last respect to cocaine as one to four or five In the next place, it is found that it can be used in extreme dilution, even up to one to 1000 or less, without forfeiting its analgesic effects. Thirdly, it has been proved that the addition of eight per 1000 of chloride of sodium to the solution improves its analgesic properties largely and has other desirable effects besides. Such a solution, consisting of eucaine one part, chloride of sodium eight parts, and water 1000 parts by weight, is the one which I am employing before you to day. It can be used practically in any amount without danger of poisonous effects, seeing that at least 10 oz. would have to be injected before the supposed maximum dose of eucaine β had been reached. As a matter of fact, 300 c.c., or 10¼ oz, have been injected in at least one operation without any ill-effects. But this will rarely be necessary.[1]

In considering the action of this fluid please keep prominently before you the fact established by Corning in America and Feinberg in Russia that cocaine applied closely to a sensory nerve-trunk produces analgesia over its whole distribution. Let me reproduce Dr. Braun's diagram to illustrate this (Fig. 1). It is quite plain that a proper fluid injected at a point where two sensory nerve filaments cross (II) may produce analgesia in both, and that if the injected fluid become diffused over a larger area (I) it may ultimately reach neighbouring filaments belonging to other nerves in one or other direction. As seen in the diagram it might meet with a nerve on the right (N 2) and affect it while missing that on the left (N 1). The same amount of fluid, however, as that employed in puncture II if injected near the trunk of the nerve at IV would produce nearly the same effect as that due to the diffusion marked by I, missing only the twig of N 1 which does not cross with the other of N 2. But if the same small quantity were injected into both the nerve trunks at III and IV the maximum of analgesia area would be reached without much diffusion of the fluid. It is this latter effect which is aimed at in the infiltration process, where by many injections of a very dilute solution over the course of sentient nerves it is hoped that the area of influence of each will overlap and so that no escape of any nerve twig shall be possible.

But of course the analgesia so produced might possibly result from various factors in the injection. It might be due (1) to the temperature of the injected fluid, (2) to the mechanical pressure exerted by the injected fluid upon the terminal sensory filaments, or (3) by the anæmia similarly produced; it might be due (4) to destructive chemical action on the nerves and tissues, or (5) it might be, finally, a specific but non-destructive effect of an injected drug upon the nerve.

Now, Dr. Braun and Dr. Heintze set themselves to ascertain by experiment how far these various factors played a part in local infiltration analgesia. The observations were made upon their own arms in the morning hours. This latter point was important because it was found that later in the day the sensibility of the skin is reduced, probably as the effect of taking food. It was also noticed that after alcoholic drinks it was easier to produce analgesia. Both of these points we must carefully bear in mind when employing this method.

The most important property of watery solutions in relation to the questions involved was their osmotic powers. They either gave or took water from the tissues or, at a certain concentration, they were indifferent solutions to which the tissues did not react at all. It is now known that all watery solutions *which have the same freezing-point* are isosmotic—i e., they either equally give or take water from the tissues or are indifferent in this respect to the latter. It has also been observed that plain distilled water injected into the skin rapidly produces two effects. In the first place, there is pain more or less severe for the moment and then transient anæsthesia. The first of these appears to be due to osmotic tension and the second likewise. These effects of osmotic tension on the sensory nerves which may be called simply injection irritation and initial paralysis are easily observed by injecting pure water at first into the skin and then water with graduated amounts of a chemically indifferent salt such as chloride of sodium. It was found that all such solutions which have nearly *the same freezing-point* as the normal fluids of the body are indifferent to the tissues—that is, they produce no osmotic changes.

Other observers have placed the freezing-point of blood, lymph, and exudation at – 0 55° C. as nearly as possible. A watery solution of chloride of sodium of 0 9 per cent. has the same freezing point and is consequently osmotically indifferent to the tissues. All stronger concentrations withdraw water from these and cause pain; all weaker solutions cause the tissues to swell, also causing pain, and all the more the nearer they approach to pure water. It is unnecessary to go into this at any great length, but you will better understand the bearing of the whole question upon the effects of injection upon sensory nerves if you look at this diagram (Fig. 2) from Dr. Braun to illustrate the osmotic effects upon the latter of watery solutions at various concentrations *down to the freezing-point of blood* and below it. Here we have on the horizontal line A B the stages of graduated concentration of a solution of common salt from 0 per cent., or pure water, to 10 per cent. The freezing-point below 0° C. of a part of these solutions is also given in the lowest lines of figures. The dark continuous curved line represents the sensory irritation indicated by pain which arises when the fluid is first introduced as pure water and then on the addition of increasing amounts of chloride of sodium. The broken line represents the transient sensory paralysis due to osmotic tension under similar conditions. The height of the curve corresponds, of course not mathematically but accurately enough, to the intensity of the irritation and the paralysis. In the middle stands the osmotically indifferent 0 9 per cent. solution of chloride of sodium. When *warm* it produces neither irritation nor paralysis of sensibility and is rapidly absorbed without leaving even a trace of change in the tissues. When injected into his own arm Dr. Braun found an apparently indifferent zone reaching from the 0·55 per cent. solution to about 2·0 per cent. in which neither injection-pain nor appreciable change of sensibility took place. But the same solution of 0·9 per cent. injected into inflamed tissues only gave a zone of insensibility in the immediate neighbourhood of the point of injection. You see also that starting backwards from a solution of 0·9 per cent. of common salt pain begins at about 0·5 per cent. and ascends until it reaches its maximum intensity with pure water, 0·0 per cent., while the immediate paralysing effect of osmotic swelling runs *nearly* parallel. An osmotic paralysis without irritation does not take place at all. Pure water besides produces in some cases distinct osmotic necrosis with exudations of inflammatory matter, and again even at the other end of concentration with 0·2 per cent. of salt this is seen. Stronger solutions than 0·9 per cent. show the effects of the removal of water from the tissues (B) up to 10·0 per cent. These consist also in irritation and sensory paralysis as seen in the right-hand curve.

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[1] The same amount has been injected into a rabbit without any evil consequences.

FIG. 2.

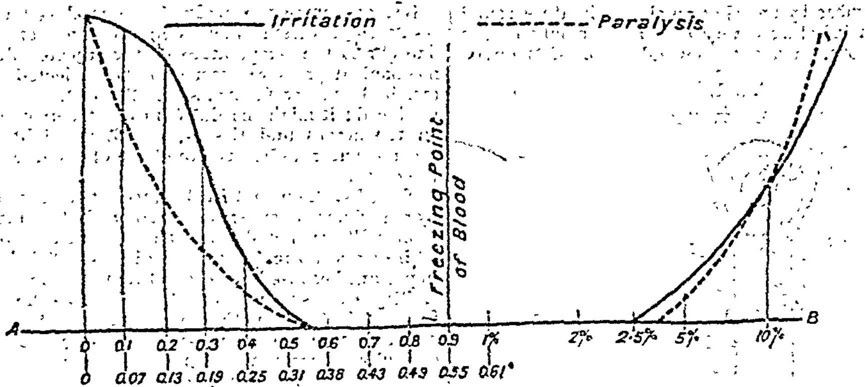

Diagram to illustrate the osmotic effects upon nerves of watery solutions of NaCl at various concentrations. The lower line of figures are – degrees C. The line marked 0 to 10% represents ascending concentrations of NaCl per cent.—e.g., 0·9% = 9 pro mille.

The proof that the changes just described are due to osmotic processes lies in the fact that we may inject large quantities of 0·9 per cent. of chloride of sodium into the tissues *until* extensive mechanical œdema is produced without lowering the sensibility, provided the fluid is at the body temperature. Cooling of the same solution to 0·0° C. or lower produces very transient anæsthesia in addition to the irritation. Water, on the other hand, warmed *to 50° or 55° C.* leaves behind painful infiltrations without lowering the sensibility. The proof that the analgesia is not produced by pressure anæmia lies in the fact that an area may be distended to any amount with 0 9 per cent. of salt solution if it is kept at body temperature without disturbing the sensibility in the slightest degree. Also if a finger be tied with an elastic band and become engorged only paræsthesia results, not analgesia. A further proof that the effects described are due alone to osmotic changes is found in the fact that a number of other chemically indifferent substances produce the same effects if used in the same way. Dr. Braun gives a long list of these salts which I should like to show you did time permit, and finds that in the indifferent *zone* which these salts produce in certain watery concentrations their freezing-points are practically the same. Take, for instance, a solution of cane sugar. This at a concentration of from 5 to 8 per cent. has the same osmotic tension as 0·55 per cent. of chloride of sodium and injected into the skin produces like the latter no change of sensibility. But with a solution of only 3 per cent. sugar, which corresponds about to a 0·3 per cent. solution of common salt, a moderate injection pain and lowering of sensibility are produced. But the addition of 0·6 per cent. of salt to the sugar solution neutralises its osmotic effect again and the mixture produces neither pain nor anæsthesia. So much for the physical effects of salt and other solutions on the nerves and tissues, though I should like to touch upon other illustrations of the point from the paper quoted if I had more time.

Let us now consider the chemical action of solutions of various kinds on the sensory nerves. Of course we are concerned with those which are indifferent. There are many which are powerfully destructive and which cannot be injected even in great dilution. But of the indifferent it is shown that at the same concentration which yields a freezing-point the same as a 0·9 per cent. solution of common salt there is the same zone free of irritation and analgesia and no tissue change. I should like to give you the reasoning on this point in detail but it would carry us too far. It is well worked out by Dr. Braun in regard to many bodies. He also shows incidentally that even hydrochlorate of morphia exercises no *local* lasting analgesic effect except so far as it very slightly adds to the specific gravity of the water in which it is dissolved and that in plain watery solutions of from 4 per cent. to 1 per cent. it produces ever-increasing injection-pain and transient anæsthesia which are only diminished by the addition of 0·6 per cent. of chloride of sodium, so that its addition as in Schleich's solution is useless.

There remains now only the specific action of the analgesic solution to be considered. The effect of cocaine in this respect would be interesting to work out, but for the following reasons, as well *as to save* time, I pass it by. We have, namely, in eucaine β a substance equal to it in analgesic properties and superior to it in possessing only a fourth or fifth of its toxic dangers. Cocaine besides is destroyed by boiling; eucaine β is not, and can *therefore be sterilised*. The freezing-point of its various solutions is almost identical with those of cocaine of the same strength. It keeps well and is cheap. For all these reasons it appears the best substance for our purpose, at all events for the present. But it is plain from what has gone before that in preparing any solution of eucaine β or cocaine we must employ warm osmotically *and* chemically indifferent fluid with a freezing-point of about – 0·55° C. as a medium so as to exclude all the physical effects of the injection *per se* and to leave the pure specific action of the paralysing drug to operate alone. With common salt solution in water of the strength *of 0·8 per cent.* and at the body temperature we have such a fluid equalling in its freezing-point that of the blood—namely, nearly – 0·55° C. To this we have only to add 0·1 per cent. of eucaine β and a fluid is furnished which meets our wants, its *freezing-point* being equal *to nearly 0·9 per cent. of* salt or – 0·55° C. We might make the eucaine β even weaker than this—1 in 1000—without forfeiting its specific action, but we should gain little by this and its action would be slower.

And now how do we make and use this fluid in practice? Perhaps the best course to pursue is to have powders made ready containing enough eucaine β and pure crystalline chloride of sodium for a couple of ordinary operations. I have had a number of such powders made up by our dispenser, Mr. Wilson, containing three grains of eucaine β and a certain quantity of chloride of sodium. One of these is boiled for a few minutes in seven ounces of distilled water and gives us a sterile solution of eucaine β one part, chloride of sodium eight parts, and water 1000 parts by weight. To use this it is well to have a special syringe such as this designed for the purpose (pattern shown). It holds 10 c.c. and has an asbestos piston in a glass cylinder which fits perfectly without any leakage. It can all be taken to pieces and boiled. It can be used, as you have just seen, either with a screw action on the piston-rod or by pull and push which is convenient for filling or emptying rapidly. To it are fitted with bayonet action either fine needles for the skin or coarser for the deeper parts One of each is bent at an elbow for use in cavities This syringe is filled with the above solution at a little above the body temperature and is armed with the finest needle. The latter is now thrust obliquely under the epidermis until its eye is buried. A few drops of the solution are then forced out by the screw when a white plaque is formed Through this which is quite anæsthetic the needle is forced deeper in various directions while the fluid is pumped out, causing a thorough infiltration of the areolar tissues and if necessary of the muscles and periosteum all over the area to be operated on until an artificial mechanical œdema is produced and presumably all the nerves of the part are steeped in the fluid. The coarser needles are more suitable for the deeper structures. Finally, the smallest needle is thrust horizontally under the epidermis all along the course of the proposed incision (the screw being turned meanwhile) until a long plaque is produced of white colour and raised. In about five to 10 minutes the part will be in a state of analgesia. The operation will then be begun and if a deep one more fluid will be forced into the deeper tissues in its course.

And now as to the preparation of the patients. In the first place, they should *not* be operated on when fasting. All are agreed upon this point. They should have had a nutritious meal shortly before. This has its advantages and its drawbacks. It is beneficial to most patients to face a long operation such as an abdominal section or radical cure of hernia with a feeling of satisfied hunger and at their fullest strength. As vomiting is not to be anticipated there is no reason for not giving food. Moreover, the sensibility of the skin seems to be blunted after the use of alcohol, so that it is well to give an egg beaten up with five ounces of milk and one ounce of brandy half an hour before operation. Among the drawbacks to feeding before operation is the chance that it may be necessary to produce general anæsthesia before the operation is over for one reason or another, in which case food in the stomach is undesirable. Again, if there were stercoraceous vomiting in a hernia case or in one of internal obstruction food would be undesirable unless we had previously washed out the stomach which, by the way, should always be done in such cases It is also a question whether we ought to allow food to pass through bowel which has been strangulated until after the lapse of a day or two. But we might give brandy in such a case without fear.

As to the drawbacks of local infiltration analgesia a good deal can be said. In the first place, the patient is conscious and this alone may prove a very great difficulty. It is probable therefore that for nervous people, and for children especially, the method will have but a very limited application among us here Again, there is no motor paralysis and if in a deep dissection pain is felt the patient may move and embarrass the surgeon But with experience in the use of the method we see but little of this and very large operations are done without trouble from this drawback. My list of operations performed under this form of analgesia during January includes—radical cures of hernia, three; abdominal section for acute general peritonitis, one; wiring patella, one; removing wire, one, osteotomy, one; varicocele, one; empyema, one; and ischio-rectal abscess, one Another objection to infiltration is that it produces an extensive artificial œdema which masks anatomical details considerably. But a little experience gets over this, especially as after the incision the excess of fluid soon leaks away. Finally, the use of the drug during an operation may cause a little delay, but not much.

It remains to be seen whether the advantages of this local analgesia outweigh in the long run the drawbacks some of which I have alluded to in the case of large operations. For the smaller operations it certainly has a large field and in many of the larger procedures it has seemed to rival general anæsthesia with its well-known dangers. But whatever may be the ultimate verdict on this method—and I am not here as its advocate but rather to study its merits and demerits with you—it appears to be a procedure which deserves very careful attention, and it certainly is most astounding as well as intrinsically interesting to see an operation such as a radical cure of a large hernia done while the patient talks and (as you saw a few days ago) laughs as he enjoys a cup of tea while you are dividing or stitching up the abdominal walls and as he describes to you his sensations. For again remember, in conclusion, that the method does not produce total anæsthesia or motor paralysis but only analgesia.

I shall now operate on the patient for the radical cure of hernia on whom I have just demonstrated the infiltration method and on another for trouble in the knee and you will see for yourselves the result.

A CASE OF

BILATERAL PARALYSIS OF THE LARYNGEAL ABDUCTORS SUCCESSFULLY TREATED BY THE REMOVAL OF THE ISTHMUS OF A BRONCHOCELE.

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A SCHOOLBOY, aged 14 years, was brought to me by Dr. Bell Graham of Bradford on July 10th, 1897, complaining of difficulty in breathing. Hereditary tendencies and family health presented no features of importance. He had had good health previously. There was no history of injury, metallic poisoning, or residence in an endemically goitrous district. For the last seven years, after exertion, his breathing had been noisy when awake and especially so during sleep. These symptoms had gradually increased until now he was precluded from outdoor games of any kind with his schoolfellows and his loud breathing made visits to the seaside or country impracticable owing to the disturbance of the sleep of others in the same house. The boy's relatives only obtained sleep at home by insisting on his keeping very still all day, otherwise his breathing was heard all over the house. The patient was intelligent and well developed. Whilst sitting still his breathing was easily heard and obviously quickened. His voice was almost normal in sound but it was noticeable that talking any length of time increased his respiratory embarrassment. After having been made to run a short distance he became slightly cyanosed, his mouth was held open, his supraclavicular and epigastric regions together with the lower intercostal spaces were markedly indrawn and there was a very loud inspiratory and expiratory stridor. There were no signs of present or past disease of the chest. Laryngoscopically during quiet respiration the glottic chink was considerably narrower than normal. On forced inspiration the vocal cords were approximated. On phonation the vocal cords adducted perfectly, although the patient's voice sounded rather harshly as if voice-production were faulty. The larynx was otherwise normal. A diagnosis of abductor paralysis of the vocal cords was accordingly made. By a process of exclusion we concluded that the cause was in the neck On examining the neck both lobes and the isthmus of the thyroid gland were enlarged. The lobes of the thyroid dipped slightly beneath the clavicles. The isthmus could be readily mapped out by the fingers and thumb as a broad thick strap across the trachea. On palpation the thyroid, although much firmer in consistence than the soft goitre of adolescents, lacked the stony hardness of malignancy. The goitre had never attracted much attention, but careful inquiry elicited the information that it had grown gradually, though slowly, during the last seven years. No protrusion of the eyeballs or other marked symptoms of exophthalmic goitre were present. Although the goitre had not been treated previously the patient had been carefully treated medically, surgically and expectantly since [illegible] his symptoms. We decided to relieve pressure on the recurrent laryngeal nerves by reducing the size of the goitre. The seductive portrait of the patient under the care of Mr. Pitts in Treves's "System of Surgery" was in my mind when I prescribed iodide of potassium for this purpose. This drug was exhibited cautiously but thoroughly for five or six weeks, beginning with five grains thrice daily and ending with 60 grains thrice daily. The iodism increased the respiratory difficulties very much. During this time we tried to increase the rate of progress by also prescribing thyroid extract. The favourable abstracts of reports of this method of treatment in the *Journal of Laryngology* for 1896 by Marie and other continental writers suggested this treatment. The patient was kept in bed, accurate observations were made regularly, but the typical toxic symptoms compelled us to stop the thyroid after we had given from 15 to 30 grains daily for three weeks. Neither remedy appeared to reduce the size of the goitre. By September, 1897, we had convinced ourselves that if any relief were to be obtained within a reasonable time it must be by surgical means.

On Sept. 5th, 1897, assisted by Dr. Bell Graham and Dr. J. Guy, I made a median incision over the centre of the easily-mapped-out thyroid isthmus about three inches in length. The isthmus was cautiously separated from the underlying structures and the attachments of the isthmus to the thyroid were transfixed by an aneurysm needle armed with a double ligature. The ligatures were tied and the isthmus was removed. The excised portion was about one inch in length vertically and wider than was anticipated owing to its having been compressed laterally when *in situ* by the lateral lobes. The trachea was not "scabbard like" and there was no immediate improvement in the breathing which at the time was very bad owing to the patient taking the anæsthetic badly. The progress of the case was uneventful. A month afterwards the boy expressed himself as feeling "a little easier" but exertion readily brought on stridor. On March 11th, 1893, the father reported that "they could not see any improvement." About the beginning of April his parents stated that "the boy was able to run as well as any other boys and that they were no longer disturbed in their sleep by his breathing." When the patient was shown to the Leeds and West Riding Medico-Chirurgical Society at the November meeting no abnormality of the larynx could be detected laryngoscopically. The goitre had disappeared and his neck measurement, which before the operation was 14 inches, was 13 inches, in spite of his being a year older and of his having grown considerably since the operation.

The only case recorded in British medical literature which I have been able to discover on almost all fours with this one is related shortly in the late Sir Morell Mackenzie's classical work.[1] The patient, "aged fifteen years—a tall lad—when perfectly quiet could breathe fairly well, but on the slightest exertion he experienced great dyspnœa and during sleep made a loud noise in his breathing. On examining the neck a moderate sized but very hard bilateral goitre was perceived and on using the laryngoscope the abductors of the vocal cords were found to be paralysed on both sides. The adductors did not seem to be at all affected and the voice was perfectly normal. By varied treatment extending over several months the bronchocele was cured and the action of the vocal cords became natural." In this case the isthmus of the thyroid does not appear to have been large. Sir Duncan Gibb was first led to suggest the feasibility of removal of the isthmus by observing "several cases of enlargement of the thyroid gland affecting one or both of the lateral lobes and implicating the isthmus."[2] In 1870 a post-mortem examination on a young man enabled him to prove that in some cases, "if not relieved by treatment the lateral lobes, which in their enlargement sometimes spring from the isthmus itself, may extend on either side of the trachea itself and completely encircle it. The consequence of this is that the tube is compressed laterally and its form becomes oval, with a very narrow passage to breathe through, which sooner or later ends fatally." In 1874 Mr. Holthouse operated on two females for Sir Duncan Gibb with the happiest results. In each case the trachea was greatly compressed and relief was speedily manifested. In 1883 Mr. Sydney Jones reported in THE LANCET a case of "enlargement of thyroid gland in a male producing pressure on the trachea and serious attacks of dyspnœa; removal of isthmus; atrophy of lateral lobes; cure."[3] In this case the patient was a labourer, aged 18 years. The duration of symptoms was for seven or eight years. The patient was quite well in less than two months. Mr. Sydney Jones's brilliant series of cases have shown us that in the words of Sir William Mac Cormac it is "a method of treatment which is comparatively simple, easy of execution, and promises excellent results in suitable cases"[4] and, further, that where the same symptoms are produced by an innocent enlargement of the thyroid without an hypertrophied isthmus removal of portions of the lateral lobes encroaching mesially on the trachea may be done quite as safely and with the same beneficial results as in those cases where the isthmus alone is excised.

In all the cases referred to I have been unable to find any reference to laryngoscopical examination. The pressure, judging from the speedily successful results, must have respected the recurrent laryngeals and the "scabbard-like" condition of the trachea readily accounted for the whole of the dyspnœa, whereas in this case six months had elapsed before the patient was obviously much better. Nor could we reasonably have expected more speedy results seeing that laryngoscopically the dyspnœa could be readily explained by pressure on the recurrent laryngeals producing the abductor palsy. Finally, I wish to express my indebtedness to Mr. Jacobson's "Operations of Surgery,"[5] not only for the valuable *résumé* which it contains of this operation but also for the ease with which I was thus enabled to look up the literature on the subject.

Bradford.

THE DISTRIBUTION AND ORIGIN OF TUBERCULOSIS IN CHILDREN:

AN ANALYSIS OF POST-MORTEM RECORDS IN 77 CASES WITH REMARKS THEREON.

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IN an interesting letter to THE LANCET of Dec. 17th, 1898, Dr. Walter Carr drew attention to the statement recently made by Sir Richard Thorne[1] that deaths from tabes mesenterica in children under one year and also tuberculous meningitis have decidedly increased during the years 1891-95. The increase in the number of deaths from these causes Sir Richard Thorne attributed to the reception of tuberculous infection into the alimentary tract. It has been shown by experiment that guinea-pigs when fed on tuberculous material soon develop tabes mesenterica; also that cows with tuberculous udders give tuberculous milk. The inference from these facts is that infants who are presumably fed chiefly on milk become tuberculous by drinking it. Dr. Carr from his records of post-mortem examinations at the Victoria Hospital for Children proves that tabes mesenterica is rare in children under two years of age, almost unknown in those under one year of age, and he invites expressions of opinion from other hospitals for children on this point. His own opinion is that the infection of tuberculosis in children is derived more frequently from the respiratory than from the alimentary tract, and that tuberculous meningitis is more often due to infective centres in the chest than in the abdomen. He regards the alleged increase of tuberculous meningitis as owing to increased correctness in diagnosis, whilst increasing incorrectness in diagnosis explains the alleged increase in tabes mesenterica amongst infants.

In order to arrive at conclusions on these points I have tabulated my own notes on 77 post-mortem examinations made on children dying from tuberculosis in the Children's Hospital, Paddington-green, during a period of eight years ending in December, 1898. The number of cases is small and does not convey any idea of the great mortality from tuberculosis amongst children treated at this institution. Parents in many cases have refused their consent to the holding of post-mortem examinations, and so have hindered the accumulation of facts which might have aided in this inquiry. Many children have been discharged as incurable during these years and are known to have subsequently died from phthisis.

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[1] Diseases of the Throat and Nose, vol. i., 1880, p. 444.

[2] THE LANCET, Jan. 23rd, 1875, p. 120.

[3] THE LANCET, Nov. 4th, 1883, p. 900.

[4] An address, Section of Surgery, British Medical Association, 1884. Brit. Med Jour., vol. ii., 1884, p. 232.

[5] The Operations of Surgery, 1889, pp. 436-438.

[1] Harben Lectures, November, 1898.

TABLE I.—*Showing the Number of Times in which Tuberculosis of Various Organs was found and its Degree in 77 Cases.*

THORACIC.

Pulmonary—			(f) Pericardial ...	Advanced and purulent	1
(a) Miliary, grey	Abundant	15			
	Sparse	4			
(b) „ yellow	Abundant	4	(g) Pleuritic, miliary	Abundant	2
	Sparse	3		Sparse ...	1
(c) Nodular ..	Abundant	21	„ adhesive	Advanced	13
	Sparse	7		Slight ..	12
(d) Cavitation, single	Advanced	5	„ purulent		4
	Slight ...	2			
(e) „ multiple	Advanced	6	Total		105
	Slight	5			

ABDOMINAL

Peritoneal—			Hepatic—		
(a) Miliary		29	Nodular	Advanced	2
(b) Adhesive and purulent ..		4		Slight ...	6
Intestinal—			Renal—		
(a) Nodular		3	Nodular, slight,..		4
(b) Ulcerative ...	Advanced	18	Tuberculous nephritis, advanced		3
	Slight ..	9	Pancreatic, advanced		1
Splenic—					
Nodular	Advanced	13			
	Slight ..	11	Total,...		102

CEREBRAL.

Meningitis—		With intra-cerebral nodules .	4
„ miliary . . .	9		
„ advanced .	23	Total . .	41

Bones and joints 6

GLANDULAR.

Thoracic glands—			Abdominal—		
(a) Hyperplasia ...		11	(a) Hyperplasia		11
(b) Caseation	Pronounced	35	(b) Caseation	Pronounced	20
	Slight	6		Slight	7
(c) Glandular abscesses		6	(c) Glandular abscesses		4
Total		57	Total		42

Both sets of glands were found caseous 15 times. In 3 cases neither set was implicated. In 12 cases the condition of the glands is not mentioned. More than one set of organs was sometimes found affected in the same patient.

Thus, tuberculosis of the various thoracic organs was found 105 times, of the various abdominal structures 102 times, of the brain and meninges 41 times, and of the bones and joints six times Although the numbers of times that tuberculosis of the thoracic and abdominal organs was found are numerically almost equal in this series, the figures do not adequately represent the proportion of thoracic to abdominal phthisis, for the number of organs and structures in the abdomen is greater than in the thorax. In the thorax only three structures, lungs, pleura, and lymphatic glands, need be considered; the solitary case in which the heart and pericardium were affected may be set aside. In the abdomen the structures in which tuberculosis was found are seven—namely, peritoneum, intestines, lymphatic glands, liver, spleen, kidney, and pancreas. For purposes of comparison we may deduct from the abdominal cases those of splenic and hepatic tuberculosis, 31 in all, as being unimportant and also those of renal and pancreatic tuberculosis (eight cases), leaving only those in which the peritoneum, abdominal glands, and intestines were involved. We have then only to compare the frequency of pulmonary phthisis with that of tabes mesenterica and the figures appear as follows: thoracic tuberculosis was found 104 times and abdominal tuberculosis was found 63 times. Adding to these figures the number of times that the thoracic and abdominal glands were found to be caseous (thoracic 46 times and abdominal 31 times) we find the totals are: thoracic tuberculosis 150 times and abdominal tuberculosis 94 times. Numerically, therefore, thoracic tuberculous affections are in excess of abdominal to the extent of at least one-third.

The starting-points of tuberculosis in children.—The method of decision is difficult and perhaps not devoid of fallacy. One can only attempt to ascertain in which organ or organs the tuberculous process is most advanced and assume that these have been primarily affected. When many organs in different parts seem equally involved it is practically impossible to come to a conclusion. On the other hand, it may not follow of necessity that the structure found most affected was the first to suffer. Tuberculosis may be set up in one place but remain quiescent there, so far as its local manifestations are concerned, yet bacilli may be disseminated thence to other and distant parts and cause rapid and extensive destruction in them. Hence conclusions as to the primary seat of mischief based on the degree of local damage found may be erroneous. However, this is the principle upon which other investigations on the subject have been made and on the whole it has led to results similar to my own.

The figures in Table II. show that in 77 cases thoracic tuberculosis was most prominent and apparently primary in 42 (54·5 per cent.), and abdominal phthisis in 19 (24 6 per cent.). Of the remainder (16) the thoracic organs were as much affected as the abdominal in seven. In one either the bronchial glands or hip had been first involved. In one the origin was either in the kidneys or hip, in one it was articular, and in six it was unknown.

Glandular origin of tuberculosis.—The thoracic glands were found in a state of caseation 46 times and the abdominal glands 31 times. Both sets were caseous in

TABLE II.—*Showing the Probable Origin of Tuberculosis in 77 Cases with Ages of the Patients and the Cause of Death*

Ages	Thoracic.			Abdominal.			General						Doubtful				Cause of Death				
	Lungs and thoracic glands.	Lungs	Thoracic glands	Mesenteric glands.	Mesenteric glands and intestines.	Pancreas.	Lungs, bronchial and mesenteric glands	Pericardium and mesenteric glands	Lungs and mesenteric glands.	Lungs, bronchial and mesenteric glands, and intestines	Bronchial and mesenteric glands and intestines.	Kidneys, lungs, mesenteric glands, and intestines.	Kidneys or hip	Bronchial glands or hip	Articular.	Unknown.	Pulmonary or thoracic.	Meningitis.	Tabes mesenterica.	Diphtheria.	Total number of cases in each period.
Under 1 year ..	4	2	4	—	—	1	—	—	1	—	—	—	—	—	—	1	8	5	—	—	13
From 1 to 2 years ...	3	2	7	5	—	—	—	—	—	—	—	1	—	—	—	1	7	11	1	—	19
„ 2 „ 3 „ ...	2	4	1	1	1	—	1	—	1	—	—	—	—	—	—	1	6	5	—	1	12
„ 3 „ 4 „ .	1	1	—	1	—	—	—	—	—	1	1	—	—	—	—	—	2	3	—	—	5
„ 4 „ 6 „	2	1	3	1	1	—	—	—	—	—	—	—	—	1	1	1	3	8	—	—	11
6 years and upwards	2	1	2	7	1	—	—	1	—	—	—	—	1	—	—	2	5	9	3	—	17
Totals	14	11	17=42	15	3	1=19	1	1	2	1	1	1=7	1	1=2	1	6	31	41	4	1	77

15 cases, which must therefore be deducted from the total, in three neither set was affected and in 12 their condition was not noted. Thus the glands were caseous in 62 cases (80·5 per cent.). But I have not regarded mere caseation as evidence of primary glandular infection and I can only trace the origin of tuberculosis with any degree of certainty to the glands in 32 cases. It was apparently in the thoracic glands in 17 cases and in the mesenteric glands in 15. This reduces the total percentage of primary glandular affection to 41·5 per cent. This percentage is considerably below that given by other observers. Thus Dr. Walter Carr[2] found a glandular origin in 72·5 per cent. of his cases; Dr. Sims Woodhead[3] traced the origin of tuberculosis to caseous bronchial glands in 75·6 per cent., to mesenteric glands in 78·7 per cent., and to mesenteric glands alone in 14 out of 127 cases. MM. Rilliet and Barthez[4] found the origin in caseous bronchial glands in 79 per cent. and in mesenteric glands in 46 per cent. of cases. Simmonds[5] discovered caseous bronchial and tracheal glands in 73 per cent. and caseous mesenteric glands in 46 per cent., whilst Dr. Walter Colman[6] attributed the origin to caseous thoracic glands in 79 per cent. and to mesenteric glands in 66 per cent. of his cases. The discrepancy between these statistics and my own may be due to the fact that I have discarded the glands as the primary source of infection unless they have been both obviously caseous, and also associated with miliary, or at all events comparatively recent, tuberculosis elsewhere. In my own cases of tuberculous meningitis to which I shall presently refer the percentage of primary glandular infection was probably 70·7 per cent., which more nearly approaches the results given by other observers. In cases of tuberculous meningitis it is usually easier to come to a decision as to the primary source than in cases of death from pulmonary or abdominal phthisis because meningitis soon kills, whereas pulmonary or abdominal phthisis must be far advanced before becoming fatal and in the latter cases it is very difficult to decide whether the glands, lungs, or intestines show the most advanced tuberculosis.

Comparative importance of pulmonary and abdominal phthisis in children.—We have seen that in 77 cases the proportions of thoracic to abdominal tuberculosis were as three is to two, also that thoracic tuberculosis was apparently primary in 54·5 per cent., whilst abdominal phthisis was apparently primary in 24·6 per cent. of cases. The difference is yet more striking when the causes of death are considered. Only four of the whole series actually died from tabes mesenterica. Three of these were over six years of age, one was aged between one and two years, but in this case fatal generalised peritonitis was caused by rupture of a mesenteric glandular abscess and there were no intestinal ulcers. The cause of death in 30 of the cases was pulmonary phthisis. 41 died from tuberculous meningitis, one from diphtheria, and one from purulent pericarditis:—

Table III. shows that tabes mesenterica is not directly fatal in young children. In the great majority of cases it only existed as part of generalised tuberculosis, giving rise to no characteristic symptoms, and it was unrecognised during life except when the mesenteric glands were sufficiently large to be palpable through the abdominal wall. Hence I share the doubts expressed by Dr. Walter Carr as to the truth of the statement recently made that there has been a large increase in the mortality from tabes mesenterica amongst children under one year of age during the years 1891–95. Such statements, when based on the Registrar-General's reports, unless supported by records of post-mortem examinations, are not reliable. The increase in the returns of death certificates under this heading is doubtless due, as Dr. Carr holds, to the prevalent superstition that every wasting infant who has also diarrhœa is suffering from "consumption of the bowels." Medical men are forced to aid and abet this superstition, for by fostering it they do not fall into discredit when their patients die, whilst if their patients recover, the medical attendant's reputation becomes greatly enhanced. The table, however, shows that in children aged between one and two years tabes mesenterica was more frequent than at any other age. Yet six of the eight cases died from pulmonary phthisis and two from tuberculous meningitis. Tabes mesenterica may therefore be set up at a very early period of life (one of my cases was only three months old), although it is never the direct cause of death in infants.

TABLE III.—*Showing the incidence of intestinal ulceration, the ages at which it was found, and the cause of death in 27 cases.*

Ages.	Ulceration.		Mesenteric glands.		Not mentioned.	Cause of death.	Total.
	Advanced.	Slight.	Enlarged.	Caseating.			
Under 1 year ...	—	3	—	2	1	Tuberculous meningitis ... ... 2 Pulmonary phthisis 1	3
From 1 to 2 years	5	3	1	7	—	Tuberculous meningitis ... ... 2 Pulmonary phthisis 6	8
" 2 to 3 "	2	1	—	2	1	Tuberculous meningitis ... ... 1 Pulmonary phthisis 1 Diphtheria 1	3
" 3 to 4 "	2	—	1	1	—	Tuberculous meningitis ... ... 1 Pulmonary phthisis 1	2
" 5 to 6 "	1	2	1	1	1	Tuberculous meningitis ... ... 1 Pulmonary phthisis 2	
" 6 to 7 "	2	—	—	2	—	Pulmonary phthisis 2	2
" 7 to 8 "	1	—	—	1	—	Tuberculous meningitis 1	1
" 8 to 9 "	4	—	1	2	1	Pulmonary phthisis 1 Tuberculous peritonitis 3	4
13 years	1	—	—	1	—	Tuberculous meningitis 1	1
Totals	18	9	4	19	4	—	27

The causes of death in these 27 cases were as follows: tuberculous meningitis, 9; pulmonary phthisis, 14; tuberculous peritonitis, 3; and diphtheria, 1.

TABLE IV.—*Showing the Probable Origin of Tuberculous Meningitis in 41 Cases.*

Thoracic	Lungs	5	Unknown	General miliary tuberculosis ...	1
	Lungs or mediastinal glands ...	5		No tubercle elsewhere	1
	Mediastinal glands	14		Head only examined	3
Abdominal	Ulceration	1	Doubtful	Thoracic or mesenteric glands ...	2
	Mesenteric glands or ulceration ...	2	Articular ...	Elbow or knee ...	1
	Mesenteric glands	6			

Of these 41 cases the origin was: thoracic in 24 cases (58·5 per cent.) abdominal in 9 cases (21·9 per cent.); and glandular either in abdomen or thorax (probably) in 29 cases (70·7 per cent).

The ages of the 41 patients in the above table were as follows:—

Under 1 year	5 cases.	From 5 to 6 years... ...	5 cases.
From 1 to 2 years ...	11 "	" 6 to 7 "	1 "
" 2 to 3 "	5 "	" 7 to 8 "	3 "
" 3 to 4 "	3 "	" 8 to 9 "	4 "
" 4 to 5 "	2 "	" 9 to 14 "	2 "

In 24 cases, therefore, of 41 (58·5 per cent.) the origin of meningitis was in all probability thoracic. In nine only (21·9 per cent.) it seemed to have been abdominal. In two of the thoracic cases otitis media might have been the immediate cause of the meningitis. In one there was disease of the tarsus, but the affection of the lungs was also far advanced. In two there was strumous dactylitis, but in one of these the bronchial glands and in the other the bronchial and mesenteric glands were caseous. In one the hip-joint had been excised some months before death, but the wound had quite healed, whilst the bronchial glands were caseous.

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[2] Transactions of the Medical Society of London, 1894, p. 298.

[3] Lectures on Tuberculosis, THE LANCET, July 14th and 21st, 1888.

[4] Maladies des Enfants, third edition, vol. iii., p. 846.

[5] Beitrag zur Statistik in Anatomischer Tuberculose im Kindesalter, Dissertation, Kiel, 1879.

[6] Brit. Med. Jour., vol. ii., 1893, p. 740.

One had had a tuberculous testis removed shortly before death but the cause of the meningitis was probably a large mediastinal abscess In one the origin was definitely articular (elbow and knee), no tuberculous foci being found elsewhere in the body In the two doubtful cases the origin might have been either in the thoracic or the abdominal glands Of the five cases of unknown origin, one had general miliary tuberculosis in one no tubercle was found elsewhere in the body, but the internal ear does not seem to have been examined In the remaining three only the head was examined The table illustrates the well known fact that tuberculous meningitis is almost invariably secondary to tuberculous affection elsewhere, also that its origin is far more commonly thoracic than abdominal, and, finally, that the commonest source of meningitis is from caseating glands, chiefly in the thorax

Alleged increase in tuberculous meningitis —It has been stated in the Harben Lectures for 1898 that deaths from tuberculous meningitis as well as from tabes mesenterica are increasing in frequency So far as the year 1898 is concerned I believe that there has been an increase in the number of deaths from meningitis in children, but I have attributed the increase to the effects of the very severe epidemic of measles which swept the country in the autumn of 1897 and the first quarter of 1898 Pulmonary tuberculosis is a common sequela to the bronchial catarrh of measles, hence the increase in meningitis only means an increase in pulmonary phthisis in children Yet it must be remembered that tuberculous meningitis like tabes mesenterica, is often wrongly diagnosed In a bygone age pneumonia was called "brain fever", now, when a child has pneumonic delirium he is usually supposed by the public to be suffering from tuberculous meningitis

Mode of entry and spread of tuberculosis in children —The local inoculation of tubercle through the skin need not concern us here We have only to consider the entry of tubercle bacilli by the respiratory and by the alimentary tracts In the one case it is usually assumed that they are inhaled directly into the lungs, in the other that they are swallowed in food and so pass directly into the alimentary tract The arguments in favour of the inhalation theory are—(1) that pulmonary tuberculosis is far more common in children than mesenteric and that the alleged increase in the death rate from tabes mesenterica in infants under one year, has no foundation in fact, (2) that the proportion of caseating thoracic glands is much greater than that of caseating mesenteric glands and the degree of caseation in the former is usually more advanced than in the latter, and (3) that glands are usually affected directly through the structures with which they are associated Hence the inferences drawn are that mesenteric tuberculosis is secondary in point of time frequency, and importance to thoracic, and that tuberculosis in children is more frequently due to inhalation of bacilli into the lungs than to their introduction by means of food, especially milk, into the alimentary tract This is, I believe, the gist of Dr Carr's contention and Dr W Colman agrees, saying "Without doubting the infection of milk in some cases I am led to attach more importance to the condition of the thoracic lymphatic glands, as the process was more advanced in them as a rule than in the mesenteric glands and in several they were extremely caseous when the mesenteric glands showed little or no change "[7]

I do not think there can be any doubt that in children there is a great preponderance of thoracic over mesenteric tuberculosis and that deaths from tabes mesenterica in young children are practically unknown, yet these facts do not prove that infection is from direct inhalation of bacilli into the lungs, nor do they disprove that bacilli entered by the alimentary tract On the other hand, the entry of bacilli into the alimentary tract does not prove that they have been introduced in milk or other food They may have floated in air entering the mouth and have been subsequently swallowed in food or mucus The great excess of infection of thoracic glands over that of mesenteric glands may be explained on other grounds than on the supposition that it is due solely to entry of bacilli through the lungs It must be remembered that the thoracic glands are commanded on all sides, for the lymphatic streams all converge in the thorax. Dr Sims Woodhead has demonstrated the course of tuberculosis through the pharyngeal and tonsillar structures, through the glands in the neck, then those in the thorax, and finally to the lung itself, in pigs He has also traced tuberculosis from a caseous or old calcareous mesenteric gland, through the chain of retroperitoneal glands up through the diaphragm to the posterior mediastinal and bronchial glands and so on to the lung [8] To these modes of access to the mediastinal and bronchial glands may be added those through the œsophageal lymphatic plexus The œsophageal lymphatics join the posterior mediastinal glands and also, near the root of the lung, the pulmonary lymphatic vessels which pass through the bronchial glands and the tracheal and œsophageal glands before terminating in the thoracic ducts The œsophagus has not as far as I know, been considered in this relation Yet although I have never found a tuberculous ulcer in the œsophagus of a child, the tube after death is usually in a most unclean condition, lined with slimy mucus and particles of food It is not, therefore, improbable that bacilli accompanying mucus or food may be carried almost directly through the œsophageal lymphatics into the mediastinal and bronchial glands and so in time affect the lungs

Infection of the lungs through the blood —Although tubercle bacilli are rarely found in the blood there can be no doubt that they must often exist in it We cannot explain the origin of tuberculous meningitis (in the absence of local tuberculosis such as middle ear disease) except on the supposition that the bacilli are carried to the brain by the blood A wandering leucocyte with bacilli in its maw, although endowed with powers of movement, can hardly make its way up the lymphatics against stream to the meninges The lymphatics all eventually meet in the thoracic ducts, and their lymph passes almost directly to the lungs through the right heart Hence if lymph picks up bacilli on its way through caseating abdominal and thoracic glands it must carry them into the pulmonary circulation. So the lungs are exposed to blood infection as well as to infection by direct inhalation of bacilli into the alveoli, whilst, as previously stated the reason why the thoracic glands are more prone to tuberculous infection than the abdominal may be because they are the meeting place of so many lymphatic streams On the other hand the mesenteric glands can only be affected either directly from the intestines or by bacilli brought to them in the circulation

Auto-infection —It has been suggested, and Dr Carr supports the view, that intestinal tuberculosis in young children may be due to deglutition of their own tuberculous sputa It is true that young children do not expectorate Yet as tubercle bacilli are not found in the sputa in cases of miliary tuberculosis one would expect secondary intestinal tuberculosis to be most marked in cases of advanced cavitation, when, presumably the sputa swallowed must be swarming with bacilli Yet I have not been able to satisfy myself that this is so Indeed whilst writing this paper I have made a post mortem examination on a child, aged between six and seven years, who died with more extensive cavitation than I have ever seen in one so young Both apices were converted into hollow shells During the three months she was under observation I am certain that she never expectorated at all and therefore must have swallowed an enormous quantity of infective material Nevertheless there was not the slightest trace of intestinal ulceration and the mesenteric glands were perfectly normal. A few nodules in the spleen were the only signs of abdominal tuberculosis The bronchial and posterior mediastinal glands were all enlarged and advanced in caseation Such cases seem to show that it must be exceedingly difficult to produce intestinal tuberculosis by swallowing tuberculous matter

To those engaged at children's hospitals who have for many years diligently propagated the doctrine that milk is the food for babes, the idea that they may have thereby aided in the propagation of tuberculosis is not a pleasant reflection Yet by a saving grace we have been accustomed to order the milk to be boiled, or at least scalded and this may perhaps allay our apprehensions Moreover, we have seen countless numbers of marasmic infants at once begin to thrive when fed on milk These are the very children who are supposed to be afflicted with consumption of the bowels, whereas they have merely suffered from the results of improper feeding It would be hard, indeed to think that we have saved them from one fate only to condemn them to another

The strongest argument after all, against milk as an important producer of tuberculosis is that children of the class to which hospital patients belong seldom get milk fresh from the cow. They are fed almost invariably on condensed milk and on cheap patent foods. Whatever may be said against these articles of diet they cannot be blamed for being tainted with bacilli—at all events, at the time they leave the manufacturers. Yet the number of deaths from tuberculosis among such children far exceeds that of deaths from other diseases. My experience among children of richer classes is limited, but leads me to believe that fresh cow's milk is rarely given to them. If they get milk at all it has been boiled until its chief virtues have left it together with any bacilli which it may have contained. It soon then disagrees and the infant is made to go through a course of proprietary foods which render it rickety and often scorbutic and in one way only lessen its chance of acquiring tuberculosis. The public are peculiarly tenacious of a particular fact once grasped and are apt to generalise too widely from it. The fact that some milk is tuberculous means to them that all milk is tuberculous, and the practitioner who ventures to prescribe it is regarded as an ignoramus or even worse.

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[7] Brit Med. Jour , vol ii , 1893, p 740

[8] Channels of Inf

It would be futile to deny that a certain amount of danger and a considerable amount of difficulty attends the use of cow's milk as a diet for children. Still it will always remain the best of infant's foods. The public must be warned against regarding the aims and object of our sanitary authorities as a mere crusade against cows. Purify our dairies as we may, we shall still have bacilli amongst us. It is by making clean our habitations that we shall most effectually drive bacilli from our midst; and this is the ambition of the Association for the Prevention of Tuberculosis. The purification of our milk-supply is but a small part of its duties, and one might as well hope to eliminate tuberculosis by shutting up the monkey-house and aviaries at the Zoological Gardens as by banishing bacilli from our dairies alone.

Synopsis.—1. Thoracic tuberculosis in children is more common than abdominal in the proportion of three to two. 2. Tabes mesenterica as a cause of death in young children is practically unknown. 3. The preponderance of thoracic over abdominal tuberculosis is not necessarily and solely due to the direct entry of bacilli into the air passages. In addition to this mode of infection the lungs may be affected: (*a*) by bacilli entering the thoracic glands through the lymphatics of the pharynx, tonsils, and œsophagus above, and through the lymphatics of the intestines and the abdominal glands below; and (*b*) by the entry of bacilli through the thoracic ducts into the pulmonary circulation *viâ* the right heart. 4. Primary infection through the alimentary tract does not prove that food has been the sole source of evil. Therefore tuberculosis in children is not likely to be materially checked by purification of milk-supply alone. 5. The alleged increase of tuberculous meningitis of late years is probably due to pulmonary tuberculosis set up by severe epidemics of measles.

Upper Berkeley-street, W.

A WOMAN DISEMBOWELLED BY A COW RECOVERY.

BY THOMAS BELL, M.R.C.S. ENG., L.R.C.P. LOND.

ABOUT 7.30 A.M. on July 5th, 1898, a message arrived requesting my attendance at a village two miles away upon a woman who had just been tossed by a cow. No particulars of the injury could be obtained. Dr. A. W. Cook Young, my assistant, who attended as soon as possible, on seeing the greater part of the bowels external to a wound in the abdominal wall, decided not to attempt the reduction alone; he gave a subcutaneous injection of a quarter of a grain of morphia, applied flannels wrung out of hot water to the bowels, and returned for me. Having prepared everything which might be required I arrived at the house about 10 A.M.

The patient was a married woman, aged 42 years, and was the mother of 12 children. It appeared that she was crossing the cow-yard to feed some poultry when a cow tossed her into the air and she alighted on the left side of the head and left shoulder. On reaching the ground she managed to struggle to her feet and walked about 30 yards into the house where she at once fell on the floor. On examination I found a transverse wound six inches in length, the centre about the middle line, about one-third of the distance below the umbilicus towards the pubes. Some 18 inches of the transverse colon and the whole of the mesenteric portion of the jejunum and ileum were protruding through the wound—about 20 feet of the small bowels. I at once carefully washed the left side of the abdomen and wound with a one in 20 solution of carbolic acid and the bowels with a one in 40 solution and at the same time examined them for any injury and laid them on the left side of the abdomen. The left hand was partly introduced into the wound. The reduction was begun with the lower ileum, passing it through a small opening between the thumb and index finger downwards and at first towards the cæcum, afterwards directly downwards, the whole ileum and jejunum being replaced; the transverse colon and greater omentum were returned last to the abdomen. 12 chrome catgut sutures saturated in a one in 40 solution of carbolic acid were introduced deeply but not touching the peritoneum. On first seeing the patient I doubted whether she would survive the reduction, the shock having been so severe, but fortunately no hæmorrhage or injury to the bowel had occurred and when the reduction was complete and the wound had been sewn up she expressed herself as feeling better, "now her bowels were in their places again." *From the time of the goring to the end of* the reduction was about four hours. The wound was dressed with a one in 80 solution of carbolic acid and covered with antiseptic gauze and a towel was fastened over all. The temperature was 97·6° F. and the pulse was 120. She was ordered a milk and beef-tea diet and was given quarter-grain doses of morphia and ammonia. About 5 P.M. she was sick and as there was a complete absence of pain the morphia was discontinued, it being considered the cause of the sickness, and hydrocyanic acid, ammonia, and tincture of hyoscyamus were given.

The following brief notes tell the after-history of the case. On July 6th the patient was very comfortable. She was not in pain and there was no tenderness on pressure about the abdomen. The temperature was 98·7° and the pulse was 120. On the 7th there was no pain and she felt better, taking milk and beef-tea freely. The temperature was 99·7° and the pulse was 100. On the 8th she was sick at 2 A.M. without apparent cause. There was no pain. The temperature was 99·5° and the pulse was 94. On the 9th the wound was dressed. Union by first intention had taken place through the whole length of the wound which looked very healthy. There was no pain. The temperature was 98·4° and the pulse was 92. On the 10th and 11th the wound was dressed. On the 10th the temperature and pulse were 98·5° and 92 respectively and on the 11th 99·2° and 94 respectively. The bowels had not been moved since the injury though small doses of sulphate of magnesium and tincture of nux vomica had been given. A solution of cascara was now added. On the 12th the bowels acted three times freely. Seven sutures were removed. The temperature was 98·7° and the pulse was 94. On the 13th the temperature was 98·6° and the pulse was 94. The remaining sutures were removed. The wound was healed and quite firm. The patient was still on milk and beef-tea diet and taking quinine, cascara, and a solution of iron. On the 15th solid food was allowed for the first time. The temperature was 98° and the pulse was 90. The only further trouble with the case was caused by the inaction of the bowels, this causing a rise of temperature on the 21st to 100·4°. An enema and stronger aperients producing free action of the bowels brought it down, as on the 23rd it was only 99° and then went down below normal, and the bowels also acted daily. On the 29th the patient was allowed to sit up for a few hours. On August 10th she was up all day, moving about and doing light work.

Remarks.—This case is very satisfactory for antiseptic treatment, as every aseptic condition was absent in the house and in the patient's surroundings, and the dwelling about the last house one would have chosen to treat such a case in. The husband's position put a trained nurse out of reach and the nursing was done by neighbours coming in and doing what was required, I giving strict orders that under no circumstances were they to attempt to look at or interfere with the dressings and the wound. When seen on Jan. 14th, 1899, the patient said that she should not know that she had been injured and was working as usual.

Uppingham

TWO CASES OF INTUSSUSCEPTION IN INFANTS TREATED BY ABDOMINAL SECTION AND REDUCTION; RECOVERY.

BY JOHN BARLOW, M.D. EDIN., F.R.C.S. ENG.,
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THE history of the cases of intussusception narrated by Dr. David B. Lees and Mr. A. Quarry Silcock at the meeting of the Clinical Society of London on May 13th, 1898, the report of which and the subsequent discussion on this subject are contained in THE LANCET of May 21st, 1898, inclines me to believe that short reports of two cases of intussusception in young children in which I performed abdominal section with success may be of interest.

CASE 1.—A female infant, aged five months, was admitted into the Glasgow Royal Infirmary on Sept. 13th, 1896, at 3.30 A.M., suffering from abdominal pain and from sickness. The mother supplied the following history. The child had always been very healthy and plump. Her bowels had been moved on the day before admission; 18 hours before admission she began to cry and to draw up her legs and strain, but nothing came away from the rectum; eight hours before admission she vomited frequently, when the mother went to a chemist who gave a "powder" to relieve the vomiting; this, however, gave no relief. Two hours later a little slime and blood were passed by the bowel and on this being repeated the mother consulted Dr. Patrick, jun., of Bridgeton, who recognised the condition and ordered removal to the Glasgow Royal Infirmary. When I saw the child the pupils were slightly contracted, which was possibly the effect of the "powder," and there were abdominal uneasiness and blood around the anus. On palpating the abdomen there was no tension of the abdominal wall and a sausage-like tumour was easily made out on the right of, and slightly above, the level of the umbilicus. The mass was slightly moveable in all directions and pain was produced by compression. Under deep anæsthesia the mass was again examined and I attempted to reduce the intussusception by inflating the large intestine with hydrogen gas. As the gas was introduced the mass moved downwards and to the right and by manipulation I was conscious of its becoming smaller; it apparently diminished to one half of its original size. The inflation combined with manipulation was continued for a few minutes but the tumour remained. The abdomen was then opened in the middle line and the affected area of bowel was easily found and brought near to the abdominal wound. The intussusception was of the ileo-colic variety. Reduction was effected by gentle traction on the ileum combined with compression of the mass within the colon towards the ileum, but the serous portion of the invaginated bowel was red and rough for a distance of two inches and here adhesions were gently broken down. The wall of the invaginated portion was thickened. The margins of the abdominal wound were brought together by a row of sutures of catgut through the peritoneum, a second row through the aponeuroses, and a third row through the skin. The usual dressings were applied. There were two points to be noted during the operation: (1) the small space available between the umbilicus and pubes in a fat child aged five months; and (2) that while there was distension of the small intestine generally the portion of the ileum adjoining the intussusception for a distance of a foot was empty, ribbon-like in form, and with its muscular coat in a condition of contraction. It seemed to me that the active peristalsis, however induced, may have been the cause of the disease. I afterwards learned that the mother who suckled the child had been eating quantities of fruit on Sept. 12th and this may have been the intestinal irritant in the case of the child.

There is not much to add about the history of the case after operation. One minim of tincture of opium was given when the anæsthesia passed off and a teaspoonful of milk was administered every hour. This amount of milk did not satisfy the child, and on the day following the operation and just before the time of my visit the catgut stitches gave way during a spell of crying and struggling, and when I saw the child many coils of small intestine were outside the abdominal wound and through the promptitude of the nurse covered with a sponge wrung out of hot solution of carbolic acid. Chloroform was given and the intestine was returned, and this time eight silkworm gut sutures were passed through all the layers of the abdominal wall and the edges of the wound were approximated. The mother was allowed to suckle the child and she appeared comfortable. Two days later I gave the mother castor oil and within 24 hours there were several evacuations from the bowels of the child. The sutures were removed on the tenth day, and the child left the hospital quite well two days later, or 12 days after the operation.

CASE 2.—A male infant, aged seven months, was admitted under my care into the Glasgow Royal Infirmary at 11 P.M. on April 28th, 1893, the boy having been seen during the afternoon by Dr. Robert Grieve of Glasgow. The mother stated that she noticed something to be wrong with the child about 2 P.M. The child who was usually contented and happy suddenly screamed out and the screams were repeated at short intervals of time. Vomiting occurred within an hour and subsequently there were diarrhœa and the passage of blood and slime by the bowel. The child was suckled by the mother and had nothing except the mother's milk and the mother had not, so far as could be ascertained, taken any unusual article of food. On admission the child was evidently suffering from abdominal pain coming on at intervals of a minute, but there was no collapse. Palpation of the abdomen detected a sausage-shaped tumour slightly above the level of the umbilicus and extending to the left of the middle line. During the examination and in one of the paroxysms of pain a mixture of blood and slime passed through the anus. Chloroform was given and a further examination was made. An attempt at reduction by manipulation was unsuccessful and the abdomen was therefore opened in the middle line, when a brownish-coloured mass of large intestine presented. The swelling was about eight inches in length, extending from two inches to the left of the umbilicus and curving downwards and to the right into the right iliac fossa. In order to effect reduction by a combination of traction on the ileum with compression of the colon beginning below the intussusception and extending toward the ileum it was necessary to enlarge the wound in the abdominal wall to a point an inch above the umbilicus and with this increased space for manipulation reduction was effected. The cæcum and vermiform appendix were found reddened and the walls thickened and roughened, and upon their reduction some flaky lymph was seen. The small intestine was distended up to a point about a foot distant from the intussusceptum, but below this the gut was ribbon-like in form and the muscular coat was in a state of contraction. Silkworm gut sutures were employed, being passed through all the layers of the abdominal walls. When I saw the child next day fæces mixed with a little blood had been passed. The child had been sleeping and there was no pain or sickness. On May 1st the site of the wound was examined owing to a slight fouling of the dressing with urine, but union had occurred. The sutures were removed a week later and the child left the infirmary well 19 days after operation. He had been restless for three days owing to the eruption of the incisor teeth.

It will be noted that in Case 1 when the child was under the full influence of the anæsthetic I employed inflation with hydrogen gas without success. I believe, however, that had the abdominal wall not been completely relaxed I might have regarded the reduction as complete. The examination of the cæcum, which formed part of the intussusceptum, inclines me to believe that to have produced sufficient pressure within the colon to have broken down the adhesions would have been attended with risk of perforation near the cæcum or elsewhere. In the second case I did not attempt inflation as the amount of bowel invaginated was obviously extensive and the results of inflation are necessarily uncertain in such cases and the process is not unattended with danger. By performing abdominal section it is not difficult to determine whether reduction can take place by combining gentle traction on the ileum with compression of the intussusceptum—a combination not attainable by the use of inflation or of enemata—and the operator may, if necessary, repair perforations or perform resection.

Glasgow.

A NEW METHOD OF TREATMENT FOR PROLAPSE OF THE UTERUS WITH NOTES OF 10 CASES OF PROCIDENTIA.

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PROLAPSUS UTERI is one of the reproaches of gynæcology. It is very common among poor working women, a class who can least afford to be incapacitated when many mouths are probably dependent upon their efforts. No further excuse than this is needed for investigation into this subject. In my preliminary notice[1] I described the relation which evolution appeared to bear as a factor in the causation of this complaint. We have only to consider the mechanical disadvantage at which the ligaments of the uterus are placed in the erect position and the excellent support which they afford in the quadrupedal position to at once understand that woman lost almost as much as man gained by the change from the latter to the former. In the erect position the heavy end of the uterus is raised up instead of hanging down and directly it passes the perpendicular gravity helps to retrovert it. In the quadrupedal position, the vagina becomes a strong suspensory ligament, instead of a weak supporting column, while the abdominal wall bears its proper share in supporting the contents of the abdomen and prevents undue straining of the pelvic floor.

The disadvantages of the erect position are partly counterbalanced by the curve between the brim and the outlet of the human pelvis as compared with the almost straight line found in the quadrupeds. Natural selection during many thousands of years has achieved a great deal and produced in single women a type which in the majority is able to undergo even severe muscular exertion during the prime of life without prolapse occurring. But the margin of security in many cases is small. Any great strain or relaxation of the pelvic structures from ill-health or advancing age, even in single women, is liable to be followed by prolapse and even procidentia in some cases. As soon as pregnancy has occurred the liability is greatly increased owing to the probability of a disturbance in the equilibrium of the forces within the pelvis. There appear to be three main causes of prolapse: (1) failure of the uterine ligaments; (2) laceration, weakness, and relaxation of the pelvic floor; and (3) increase in weight of the uterus. The part played by each of these causes varies very much in different individuals.

The uterine ligaments may give way without any relaxation of the pelvic floor, or increase in size of the uterus. I described a case of this kind occurring in a single woman, aged 35 years, where procidentia occurred and ruptured an intact hymen, although the uterus was normal in size and the pelvic floor was perfect. In contrast to this I have recently operated on a patient, aged 43 years, with complete rupture of the perineum extending through the sphincter ani which occurred 10 years ago. During all that time no descent of the uterus followed in spite of the great imperfection in the pelvic floor, showing that the ligaments alone are capable of sustaining the uterus in some cases, but if they are defective even a good pelvic floor with an intact hymen will not prevent procidentia. In other cases the ligaments may be just strong enough to keep up the uterus, provided that they are assisted by a normal pelvic floor. Under these conditions if rupture of the perineum occurs and is left unrepaired prolapse will soon begin. Or the fault will be found in the increased weight of the uterus from sub-involution or other cause. Here again the ligaments may be just strong enough to sustain the normal uterine weight, but as soon as it is increased they commence to stretch. When the uterus has been reduced to its proper size by appropriate treatment the patient recovers and can do without a pessary. But very large numbers of cases occur where treatment is not so simple. In the same patient all these causes may be at work. Combined with an enlarged uterus we often find in procidentia a weak and imperfect pelvic floor with incapable stretched ligaments. The uterus cannot always be reduced to its normal weight. When the general health is deteriorated the perineum stretches again after repair and the whole pelvic floor loses tone and partly gives way. While in many instances no pessary can be retained procidentia then occurs and the poor woman becomes a useless member of the community. These cases are not uncommon, there are thousands of them.

For several years I gave the operation of colpoperineorrhaphy a good trial, with considerable success so far as the operation was concerned. The perineum and vagina by this means can be reduced to a virginal form. If the patients are not allowed to get about for two months the new tissues have time to consolidate and in about two-thirds of the cases very little stretching takes place. When the fault lies with the pelvic floor the patient is greatly improved and is often restored to health, but in time the perineum without the help of the ligaments is unable to sustain the whole of the downward pressure and gradually gives way. In operations on the pelvic floor the chief structures concerned in holding up the uterus—viz., the ligaments—are left untouched. The method of treatment which I now bring forward is an attempt to strengthen the broad ligaments by appropriate means. This seems to me to be a more rational proceeding than attempting to form an unnatural ligament by attaching the fundus to the abdominal wall.

Let us consider prolapse of the uterus as a dislocation and compare it with what takes place when dislocation in an ordinary joint—say the ankle—occurs. In the latter case the sudden wrench which produces the dislocation causes laceration or stretching of the ligaments and bruising of the surrounding tissues. *The irritation thus set up produces* an effusion of lymph which repairs the damage and new adhesions form which strengthen the weakened ligaments. In many cases nature does too much, although she sometimes fails to do enough. Now, when prolapse of the uterus occurs, the dislocation in nearly every case is so gradual and is spread over so long a period of time that the surrounding tissues are able to accommodate themselves. There is not sufficient injury to set up irritation and no effusion of lymph takes place to strengthen the overstretched ligaments. After thinking it over I could see no reason why we should not take advantage of this physiological function and supply the stimulus necessary by the injection of a suitable fluid into the cellular tissue of the broad ligaments and thus force nature to do her proper work. Moreover, it is common knowledge that after an attack of pelvic cellulitis there generally remain some adhesions sufficient to prevent a prolapse. It might be urged that there is a risk in setting up reparative action. In answer to that I would say that it depends upon how it is done. If all germs are excluded the reaction set up is proportionate to the stimulus applied, the only variations being due to age and idiosyncrasy. I suggested this in my first paper, and I have since found in practice that it is correct. That inflammation is a disease, as our forefathers thought, cannot now be accepted. In the light of modern research we must regard it as a reparative and protective process. No hard-and-fast line can be drawn between the effusion of lymph for the repair of a mechanical injury and the acute inflammatory process produced by toxins; they are both gradations of the same protective power. Undoubtedly inflammation may be so violent as to cause local injury, but this very violence will locally block the entry of bacteria into the general system or by suppuration get rid of a foreign body harmful to the tissues and life is saved at the expense of some local damage.] Like the structure of the body the phenomena of inflammation have in all probability been gradually evolved with other physiological functions by natural selection in the long distant past before man had learnt the use of a stone axe or even left the ranks of the quadrupeds. And just as the body produced by natural selection is in some respects imperfect in structure so also is inflammation not altogether perfect as a reparative and protective process, but sometimes it requires to be controlled by the physician and either curbed or spurred according to circumstances.

As an instance of the protective power of inflammation may be mentioned the gluing together of surfaces round ulcerations in the stomach and intestines by which the general cavity of the peritoneum is shut off. This is only an example of what in fact may occur in any part of the body when an injury calls for its manifestation. For the surgeon to use inflammation as a reparative process under his own control is no new principle; it has been extensively used for chronic hydrocele of the tunica vaginalis and in stimulating the ends of an ununited fracture of bone by driving in ivory pegs or by other means. I fail at present to see any reason why this reparative process should not be used by the gynæcologist to strengthen the broad ligaments and so help to keep up the uterus. It is not meant to supersede all other treatment, but when other means have failed and as an adjunct to what has already been done. When the perineum is ruptured it should be sown up and all other measures which are likely to restore the tone of the pelvic floor should be used. If the uterus is enlarged it should when possible be reduced to its normal size, while a great many cases can be restored to health by rest and other simple means.

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[1] Brit. Med. Jour., Oct. 23rd, 1897.

The anatomy of the broad ligaments requires careful consideration. Under normal conditions they are bounded anteriorly and posteriorly by two folds of peritoneum which leave the sides of the uterus and pass outwards and somewhat backwards to the sides of the pelvis. Above are the Fallopian tube and the junction of the two peritoneal folds; below are the pelvic floor and the vaginal fornix; on the inner side is the uterus with its artery and veins, and on the outer the wall of the true pelvis with the obturator internus. The space thus enclosed is filled with cellular tissue, lymphatics, and blood-vessels. This cellular tissue—called by Virchow the parametric connective tissue—is of the greatest importance, for its presence renders this treatment possible. It is most dense near the uterus and when followed outwards continues on to the upper part of the side wall of the true pelvis. It is more or less continuous with that in the iliac fossa and under the peritoneum at its different points of reflection in the pelvis (Hart and Barbour). In the normal woman able to go through a good deal of physical exertion without any ill result a band can be felt through the vaginal fornix on each side of the uterus in the broad ligament between the uterus and the pelvic wall.

Dr. J. C. Webster, speaking of the broad ligaments, tells us:[2] "The peritoneal covering is of very little practical importance in supporting the uterus. Within this covering is fibro-muscular and elastic tissue which can be traced as bands in several places running from the uterus to the pelvic walls. If the slightest downward pressure is made on the uterus in the cadaver it is found that a line of resistance is formed in the broad ligament running from the cervix upwards and outwards towards its upper parietal attachment." Sir William Turner says that they act as lateral ligaments for the uterus. In the operation of vaginal extirpation of the uterus after the organ has been separated from its vesical and vaginal connexions, although the vagina be distended as widely as possible the uterus does not tend to fall down, but is kept in position by its ligamentous attachments. When the uterus is pulled down and then let go it is instantly drawn up again. Dr. Savage[3] considers the broad ligaments to be of great importance in holding up the uterus. All this evidence gives strong support to the treatment brought forward. The uterine artery leaves the pelvic wall just above the ischial spine, but continues to descend downwards and inwards towards the cervix; it then makes a bend upwards, crosses the ureter, and reaches the uterus just above its junction with the vagina. It runs up the side of this organ in the folds of the broad ligaments and finally anastomoses with the ovarian artery. The uterine veins accompany it and form a plexus along the side of the uterus. To look at some of the plates in the text-books one would think that the whole of the broad ligament was one mass of veins, but this is by no means the case. If the broad ligament be opened up in its outer two-thirds by an incision through the vaginal wall, as I had to do in Case 5, it will be found that there are no veins to be seen and that the vaginal incision and also a deeper one into the cellular tissue causes practically no bleeding. The ureter on entering the pelvis crosses the common iliac near its bifurcation and runs downwards and forwards in front of the anterior branch of the internal iliac, passes obliquely along the base of the broad ligament, and is crossed to the outside by the uterine artery. At the level of the internal os it turns forward and at a distance of half an inch from it runs along the side of the vagina, finally bending over it so as to enter the junction between the vagina and the bladder. There is therefore a space in the outer two-thirds of the broad ligaments free from any structure of importance except the cellular tissue. If a point then be chosen in the vagina from about three-quarters of an inch to an inch from its junction to the cervix and on a level with the external os and a needle is inserted to a depth of one inch in a direction parallel to the side of the uterus the point will be in the cellular tissue about the middle of the broad ligament and quite clear of any structure which should be avoided.

It was a long time before I could make up my mind as to the best means for producing an effusion of lymph. The treatment of hydrocele by injections was not much of a guide because cellular tissue is very different from a serous membrane. The strength of solutions used to obtain adhesions of the tunica vaginalis would cause sloughing of cellular tissue. At the suggestion of my friend Dr. Aikman of Guernsey I tried quinine. It has many advantages, being strongly antiseptic, more tonic than poisonous to the general system, and at the same time acting as a local irritant. There can be very little doubt that after the injection the quinine is deposited. If any absorption takes place it must be very slowly for none of the patients have ever had the slightest sign of the usual symptoms which follow the administration of a large dose of quinine by the mouth although as much as 16 grains has been injected at a sitting. Quite possibly other reagents would do as well or perhaps better. As I find quinine answers the purpose I have not tried anything else.

Operation.—The patient is placed in the lithotomy position. The vagina is thoroughly douched and rendered as much aseptic as possible. The perineum is then retracted with either Auvard's or Sims's speculum. Another retractor is then used to hold up the anterior wall of the vagina if necessary. The lateral walls are then exposed. The uterus is held with one hand as nearly as possible in its normal position by a probe passed into its interior. With the other hand the injections are made on each side through the vaginal wall into both broad ligaments on a level with the external os and from about three-quarters of an inch to an inch from the junction of the vagina to the cervix. After the syringe and speculum have been withdrawn it is necessary to keep the uterus up with a cup and stem pessary held in position by four tapes tied round the waist. This is left in position for three or four days and is then removed. A special syringe with a long, thin nozzle is a great convenience because it does not obstruct the light and it enables the operator to see that the needle-point pierces the vaginal wall at the right point. The needle should not be more than an inch in length or much thicker than a hypodermic needle in order that the puncture may close quickly.

CASE 1.—The patient was a woman, aged 61 years, who had been suffering from prolapse for seven years and from procidentia for four months, with extensive ulceration of the cervix from friction. One injection was given in June, 1897, into each broad ligament. At the end of two months she left the hospital feeling very well and free from pain. When she stood up and strained as much as possible she was unable to cause any prolapse of the uterus; a slight thickening could be felt in each fornix, while the normal mobility of the uterus was but little if at all impaired. The vaginal walls bulged slightly at the vulva when she strained, but much less than before as the uterus was held up. At the end of six months (Jan. 3rd, 1898) I examined her and as the improvement was maintained I determined to go on with other cases. On Dec. 12th, 1898, I saw this patient again and examined her—one year and six months after the operation. She had been at work all this time. When she stands and bears down as much as possible there is no descent of the uterus. She feels very well and I was very pleased with the improvement in the poor woman's condition.

The following are the abbreviated notes of the other nine cases.

CASE 2 (hospital case).—The patient was a woman, aged 37 years. She was admitted to hospital on Jan. 24th, 1898. She had had two children. Prolapse had been present for 10 years and procidentia for three years. The uterus was enlarged. There was profuse discharge. The pelvic floor was weak and the perineum was stretched. She was unable to hold a pessary. She had incontinence of urine at times. On Feb. 3rd an injection of 20 minims of a solution of quinine (10 grains to the drachm) was given. On the 6th the uterus was held up by effusion. There was no rise in temperature. In April, 1898, there was some stretching of the new tissue and the uterus descended about an inch from the normal. In June, 1898, the cervix came down to the vulva to come in for a second injection. On July 11th operation was performed without any anæsthesia; quinine solution (one in five) was injected into both broad ligaments. On July 20th effusion was good. The uterus was well held. The temperature was normal. In October the uterus kept up in good position. She had been at work.

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[2] Researches on Female Pelvic Anatomy, p. 88.

[3] Anatomical Illustrations of the Surgery of the Female Pelvic Organs.

Case 3 (hospital case).—A woman, aged 39 years, was admitted to hospital on Jan. 24th, 1898. She had had eight children. Prolapse had been present for two years and procidentia for one month. She had severe pain in the back. She could not retain a pessary. Incontinence of urine was present at times; the discharge was profuse. She had a short perineum. On Feb. 10th an injection of 25 minims of solution of quinine (one in six) was given. Her temperature was normal. There was good effusion; the uterus was well held up. The patient wrote on June 22nd: "I am at work in a laundry, so cannot come to see you. I am better than I ever thought to have been, but not so well as I should like to be." In December, 1898, the uterus was in good position. There was no prolapse. She had been hard at work without a pessary.

Case 4 (hospital patient).—A woman, aged 44 years, was admitted to hospital in February, 1898. She had had five children. She had had severe prolapse and procidentia for 15 years. She could not retain a pessary. There was incontinence of urine at times. The uterus was enlarged and heavy. The pelvic floor and vagina were very weak and relaxed. On Feb. 24th an injection of 25 minims of solution (one in six) was given. Her temperature was 100° F. for two days and then normal. In June, 1898, the broad ligaments were not strong enough; the uterus still descended. On August 4th a second injection of 30 minims of solution (one in five) was given, the patient being under ether. On the 11th effusion was good. There was no rise in temperature. On the 25th colpoperineorrhaphy was performed. There was good union in September. In December, 1893, there had been no return of the procidentia. *The uterus kept up fairly well.* The patient wears a pessary.

Case 5 (hospital case).—The patient was a woman, aged 29 years. She had had but one child. She was admitted to hospital on March 4th, 1898. Procidentia had been present for 18 months after her confinement, with incontinence of urine. She had tried seven different pessaries. The pelvic floor and vagina were fairly good. On March 10th an injection of 25 minims of solution (10 grains to the drachm) was given. The needle broke off in the left broad ligament. It was cut down upon and removed. On March 17th the sutures were removed and the wound healed. There was no pain or discharge and no rise in temperature. On June 22nd the uterus was in a very good position. On standing and straining there was no descent whatever. The patient felt very well. No pessary was required.

Case 6 (hospital case).—The patient was a woman, aged 46 years. She had had nine children. Prolapse had been present for seven years. Procidentia began four years ago. The perineum had been repaired three and a half years ago; it was better for 12 months. Procidentia recurred 12 months ago. The pelvic floor and vagina were weak and lax. The *left broad ligament was fairly strong.* The right gave way completely. She had an irritable bladder. On March 21st, 1898, an injection of 25 minims solution (10 grains to the drachm) was given with the patient under ether. A second injection was given on March 31st of the right broad ligament. There was sufficient effusion. The uterus was well held up. There was no trouble with the bladder now. She had slight pain in the left side. There was no rise in temperature. On May 19th the uterus kept up well. On June 22nd the patient was going on well; there had been no prolapse. No pessary was required.

Case 7 (hospital case).—The patient was a woman, aged 55 years. Prolapse had been present for 12 months and procidentia for four months. She could not retain a pessary. The pelvic floor and vagina were weak and very distensible. There was a yellow discharge. On March 17th an injection of 25 minims of solution (10 grains to the drachm) was given. On April 4th a second injection was given as before. The uterus was well held up. There was less effusion than in other cases. The temperature, after the first injection, rose to from 101° to 102° F. the day following. It was normal after the second injection. There was no pain. She was discharged on April 16th. On June 16th she felt very well and was quite comfortable. She had been at work for a month. On examination the uterus was in position and was well held up by the bands on each side. On Dec. 12th, 1898, the uterus was in good position. There had been no descent. No pessary was required.

Case 8 (hospital case).—A woman, aged 51 years, was admitted into hospital on March 18. She had had 10 children. Prolapse had been present for 10 years and procidentia for three years. She could not retain any pessary. There was profuse offensive discharge. She could not micturate when the uterus was down. The family history was good. The pelvic floor and vagina were very lax. On March 24th 25 minims of solution (10 grains to the drachm) were injected with the patient under ether. There was less effusion than usual. On April 14th an injection of 30 minims (10 grains to the drachm) was given, cocaine anæsthesia being employed. On the 25th an injection of 40 minims of the same solution was given. There was a fair amount of effusion. The temperature rose to 100° F. for three days after the first injection; there was no rise with the second and third. On June 22nd the uterus kept up well. There was slight descent on straining and some cystocele; the patient felt very much better and had been doing her work. She wore a ring pessary. In December she was very well; there had been no prolapse.

Case 9 (private case).—The patient was a woman, aged 66 years, who had been under the care of Dr. Aikman of Guernsey. She had had one child. Prolapse had been present for 12 years and *procidentia for six years. She could* not retain a pessary. There had been retention of the urine with procidentia. On April 8th, 1898, chloroform was administered by Dr. Webster and with Dr. Aikman's assistance 30 minims of solution (12 grains to the drachm) were injected into each broad ligament. There was no rise of temperature. The uterus was held up. Dr. Aikman wrote on June 25th: "I saw the patient at the end of her day's work. The fixation of the uterus is perfect and she is most grateful. She has been a great deal about and is doing all her housework. It is certain she did not take the full amount of rest which was advised for her, but that is only further testimony to the success of the treatment." On Dec. 10th, 1898, Dr. Aikman wrote: "The patient is quite well. She goes about without any inconvenience and is profoundly grateful to you."

Case 10 (hospital case).—A woman, aged 65 years, came into hospital on April 23rd, 1898. She had had a family of 10 and five miscarriages. Prolapse had been present for 36 years and procidentia for 25 years. Incontinence and retention of urine were frequent. The whole of the pelvic floor gave way. She could not retain a pessary. On April 28th under ether 40 minims of solution (12 grains to the drachm) were injected. There was very little effusion. On May 9th (cocaine anæsthesia) 35 minims of the same solution were injected. Effusion was more marked. On May 26th (cocaine anæsthesia) 40 minims of the same solution were injected. The temperature after the last injection rose to 102·5° F. and fell to normal on the fourth day. Effusion was satisfactory. The slight pain and tenderness in the pelvis disappeared in three days. On June 13th she had been up for three days and felt nice and comfortable. On June 21st she went to a convalescent home. The uterus was in a very good position; there was no prolapse whatever. The patient wears a ring pessary. In December she was very well and had had no prolapse, remaining the same in January, 1899.

Remarks.—In all these cases prolapse had existed for years, and in Case 10 actual procidentia for twenty-five years. All other treatment having been tried without success they may be considered as good test cases and much worse than the average woman with prolapse condemned to wear a pessary for the term of her natural life. In most of the cases an anæsthetic was given. As the operation does not take more than five or 10 minutes it is not necessary but preferable. In lieu of that, two tampons soaked in a 20 per cent. solution of cocaine placed one in each fornix for a few minutes prevented the insertion of the needle from being felt. When the quinine solution was injected it sometimes caused no pain, in others slight pain. The legs must be held immoveable in a Clover's crutch or other arrangement. The object of inserting a pessary for a few days after the operation is to make sure that when the effusion does take place it will hold the uterus in a good and not in a bad position. After the operation most of the patients have practically no pain. There is a slight aching in the pelvis for a day or two. At the end of a few days the pessary is removed. On examination it is then found that the uterus is held up and when the patient strains as much as possible no prolapse occurs. In both fornices some effusion in both broad ligaments can be felt with a little tenderness. The amount of effusion will depend on the personal reaction of the individual and the strength and amount of the solution injected. The swelling is not hard like a parametritis, nor is it at all extensive, but feels more like a band in most cases, passing from the uterus to the wall of the pelvis. It is firm and resilient. The uterus is held in position, not fixed; but still it has mobility. In Cases 8 and 10 the amount of effusion was much less than in the others. Both of them were old women with an excellent family history and large families of their own, and with the exception of the procidentia enjoyed good health. They were both thin and wiry, but gave the impression of being aged prematurely. The effusion also felt more localised in one spot and less of a band than in the others. On this account, and because the procidentia was more marked the injections were repeated. At first enough was not done for Cases 2 and 4. The reduction in the strength of the solution from that used in the first case was too great (from 15 to 10 grs.) and more than one injection was required. It takes some experience to know how much effusion is necessary in each case to afford permanent support. The number of injections must be proportioned to the exigencies of the case. Sometimes very little may be sufficient to restore the balance; in others, such as Case 10 where the procidentia had existed for 25 years and where the perineum had given way altogether a great deal of strengthening may be necessary to enable the ligaments to do their own work as well as that of the pelvic floor. There is no need for any rise of temperature to take place. In six cases (Cases 2, 3, 5, 6, 9, and 11) the temperature remained normal. Two cases touched 100° F.; only one, Case 10, reached 102·5° after one only of three injections. The patients seem to do just as well whether they have a slight rise of temperature or not. In fact I do not find any difference in results. There was no suppuration in any of these nine cases, although it has occurred in a recent case which will be published in its turn with my next series. The patient in the first case felt no ill-effects from slight suppuration, while she has been much benefited by the uterus keeping up. Nearly all these patients might have got up at the end of a week so far as the operation was concerned. But the object in view was to obtain organisation of the lymph so as to give permanent support in the broad ligaments.

As I stated in my preliminary notice we do not at present know why absorption of an exudation should take place in one case and organisation in another. Empiricism helps us by the observation of injuries to joints. A severe sprain to a healthy man or woman causes swelling from the effusion of lymph thrown out around the joint and after the subsidence of the inflammatory reaction adhesions begin to form and in many cases more than are required. To combat this passive movements and massage are resorted to. On the other hand, the longer the joint is kept in a splint and at rest the greater the number of adhesions which will form. If we apply this lesson to the pelvis we at once see the necessity of keeping the patient as nearly in a splint as possible and that is in bed for a month or two, not only to promote organisation of the lymph thrown out but also to prevent any strain until it is strong enough to bear it. The risk does not appear to be very great, all the patients having recovered from the operation. I mentioned in my first paper that one might expect considerable disturbance in the normal relations of the pelvic organs as a result of procidentia even after the uterus had been reduced and kept in place for a few days or a week and the needle under these circumstances might pierce some structure which we would wish to avoid. This, I think, would be more likely to occur in the worst cases of procidentia, but then the worse the case the more justification for running some risk on account of the helpless condition of the patient. As the needle is barely larger than a hypodermic needle it would probably not do much harm if it did pierce other structures than those intended. Then the solution of quinine is antiseptic. Dr. Anna[4] found that the injection of the bichloride of quinine into a vein or artery caused no coagulation and that there was no danger attached to it. A complication did occur in Case 5 which I had not expected. The needle which had become corroded by the quinine solution broke off in the left broad ligament. An incision was made through the vaginal wall over the point of insertion and again into the cellular tissue and the needle was extracted. No veins were to be seen and there was practically no bleeding, so I do not think there need be much fear of a hæmatoma from the injections. The incision healed by primary union and the patient did admirably.

We may, I think, compare procidentia with fibroma of the uterus in that it is rarely although sometimes a fatal disease and one which incapacitates the patient from the duties of life. If, then, a mortality of from 10 to 15 per cent. is justified in the surgical treatment of fibromata we are certainly justified in running some risk in the treatment of procidentia because up to the present these cases have been given up as incurable. By holding the uterus up in good position cystocele and rectocele in rather more than half the cases disappeared, and in the rest were greatly diminished. When there is still some bulging of the vaginal walls in spite of the uterus being kept up I find that a ring pessary does away with it and makes the patient quite comfortable.

Queen street, Mayfair, W.

FURTHER REMARKS ON THE OPEN METHOD OF ADMINISTERING NITROUS OXIDE GAS.

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SINCE first drawing attention in THE LANCET of Oct. 8th, 1898, to a plan which I had devised for inducing anæsthesia with nitrous oxide gas with an open inhaler, avoiding the use of valves or closed face piece, and making use of a normal atmospheric pressure, I have been regularly employing this method both in my private practice and in hospitals and so far have found that further experience bears out my opinion of its practicability and efficiency and also as to the increased comfort which it secures to the patient. In a consecutive series of 250 unselected cases of which I have kept notes the results have been almost uniformly satisfactory.

It has been repeatedly demonstrated that with an accurately fitting closed inhaler the violent physiological disturbance of the patient can be much modified by the *intentional* admission of a little air or oxygen. The doctrine that a face-piece when applied must be air-tight has, in my opinion, been a stumbling-block to progress in the administration of nitrous oxide gas for many years, since it begets the conclusion that to admit air must interfere with the effect of the gas. I venture to think that this conclusion is erroneous and that the difficulty with an ill-fitting face-piece depends not so much upon the ingress of air as upon the very rapid escape of the heavier nitrous oxide gas. Letting air in is by no means the same thing as letting the gas out. In the former case the quantity of gas available for the patient is not necessarily diminished; in the latter it is very much so, especially if the escape of gas is very free, as often happens when the patient has much hair upon the face. Under the circumstances, unless the pressure of gas is very materially increased to compensate for what is lost by leakage, the patient will not be able to absorb a sufficient quantity to render him completely anæsthetic, although he inspires enough to render him excited and unruly. By the use of an inhaler which is completely open to the air at the top and into which the gas is allowed to fall from the end of a supply-pipe held over it the full anæsthetic effects of nitrous oxide gas can be obtained. If the inhaler is accurately applied to the face there cannot be any escape of gas, unless due to overflow resulting from too free a supply. The weight of the gas prevents escape upwards and unless leakage is permitted between the margins of the inhaler and the face there can be no escape downwards. If an ordinary pint pot is filled with nitrous oxide overnight and left uncovered and undisturbed a considerable proportion of the gas will still be there in the morning. A mouse placed at the bottom of an unclosed vessel into which anæsthetic for five and a half hours and on removal recovered completely in one minute. The gas when given in the open inhaler being freely exposed to the air and mixed with it can only be inhaled at the atmospheric pressure and the pressure can neither be increased by an excess of gas nor lowered by a reduced supply. The gas as it falls into the inhaler by its own weight is warmed by the breath of the patient and by the surrounding atmosphere—an important point when the cold produced by the rapid evaporation of the gas on leaving the cylinders is remembered. From a hygienic standpoint there is a very wide difference between an inhaler which is open to the air and unconnected with anything and one which is completely shut off from the surrounding air and is connected by tubes and valves to indiarubber bags, all of which are admittedly most difficult to keep pure and into and out of which both the healthy and the unhealthy must breathe. It will be seen therefore that with the open inhaler several conditions are absent which are present to the discomfort and disturbance of the patient when a closely-fitting air-excluding mask is used—viz., the cutting off of the air-supply, breathing under artificial pressures, the breathing of cold gas, the possibility of tuberculous infection, and minor discomforts, such as the smell of the gas bag, the whistling of the gas, and the noise of the valves.

The effects produced upon the patient when gas is given with the open inhaler are generally as follows. After the first few breaths the agitation caused by apprehension subsides; the patient assumes a sleepy appearance and in from five to 10 seconds is unconscious; the breathing becomes steady and tranquil; and by the end of from 50 to 80 seconds the patient is anæsthetic, with the muscles relaxed and the reflexes abolished. The only visible sign is the change from a condition of wakefulness to sleep which is so tranquil that onlookers who have not previously seen this method employed can scarcely believe that the patient is ready for operation. Movement seldom occurs before the commencement of return to consciousness which is usually gradual. No excitement, stertor, lividity, struggling, or convulsive movements occur. In no case of the above-mentioned series has it been necessary to use force to restrain the patient during or after the exhibition of the anæsthetic. Occasional instances of screaming have occurred on recovery, the patients being nervous women, weak and ill, who had previously screamed under other methods. The symptoms of asphyxia which so frequently accompany the use of gas anæsthesia when an accurately-fitting, air-excluding mask *is used are completely absent when this method is* employed.

I have asked several well-known physicians to watch cases for me and although the administrations have lasted up to periods of 11 minutes they have observed no change in the patients beyond a slight increase of pulse-rate during the first few moments of inhalation, the pulse and respiration soon settle down to a quiet, unchanging rhythm. It was impossible to determine, however, whether the initial slight increase in pulse-rate was due to agitation or to the anæsthetic. The return to consciousness when the patient is not disturbed is placid and tranquil; he quietly opens his eyes, looks about him, realises his position, and behaves according to his temperament. If the operation is continued beyond the duration of true anæsthesia signs of apparent discomfort will appear before clear consciousness is established. The most constant early sign of returning sensibility is a slight "*screwing up*" of the eyelids, followed by slow, vague movements of the limbs which will quickly, but not abruptly, become defensive if the operation is continued.

In spite of many experiments as to size and shape of face-pieces and of variations in the manner of regulating the gas-supply inseparable from attempts to decide upon the most practical procedure, complaints of unpleasant after-effects have been few and far between and even when present have been of very transient nature. In several cases where the operations have lasted several minutes and the patients have been under constant competent observation both before and after no subsequent ill-effects have been observed. In one instance a lady was under gas by this method for four and a half minutes for removal of a Meibomian cyst and she felt no subsequent disturbance; she had taken gas on several previous occasions and had always been sick for three days.

Up to the time of my first communication on this subject I had simply used as an open inhaler some textile fabric—e.g., a napkin or towel folded and adapted to the face in such a manner that the nose and mouth were partially enclosed in a more or less cup-shaped cavity completely open at the top. As an extemporised face-piece is not always convenient I have had some more permanent inhalers constructed which give very satisfactory results. These inhalers are made in two forms, one cylindrical in shape for use when the patient is lying down (Fig. 1); the other somewhat cup-shaped when in position for use when the patient is sitting up (Fig. 2). A glance at the accompanying sketches will show the appearance of the face-pieces when in use. The material used in their construction is clear, thin celluloid—a substance which is at once light, transparent, and very pliable; it is non-absorbent and can be easily and rapidly cleansed. The somewhat cylindrical inhaler (Fig. 1) is completely open at either end and is flattened from side to side; the upper end is straight, but the lower is curved and provided with an air-cushion in order that it can be easily fitted over the nose and chin and rest evenly upon the face of the patient. The long diameter of this inhaler should correspond to the distance between the bridge of the patient's nose to midway between the lower lip and the point of the chin and the narrow diameter to the extreme width of the patient's mouth. The depth of the inhaler should be equal to the sum of the long and narrow diameters. The other inhaler (Fig. 2) is formed of a wide piece of celluloid bent so as to form a semicircle, into the side of which the face looks. The space thus formed is freely open at the top, but closed at the bottom by a celluloid floor which is continuous with the sides; the floor is curved downwards from side to side in order to facilitate cleanliness and to render it more comfortable to the patient. The free margin of the floor is curved in order that it may fit the face of the patient

FIG. 1.

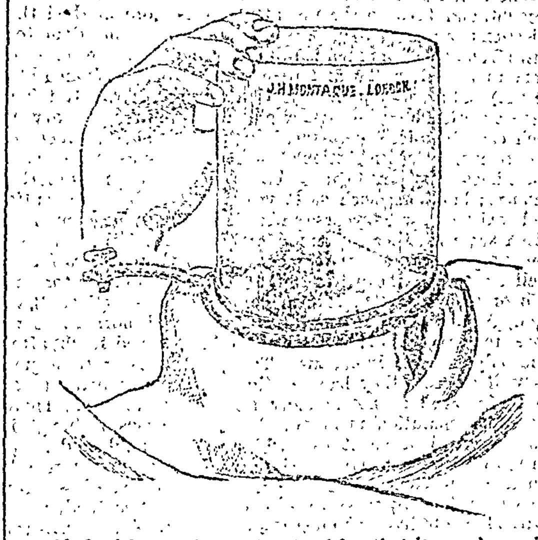
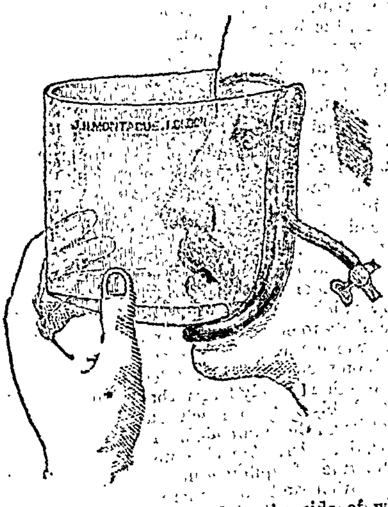

J.H.MONTAGUE. LONDON.

FIG. 2.



when applied either below the lower or above the upper lip The sides of the inhaler reach from the eyes to the upper part of the chin, and the opening for the face is sufficiently wide to clear the orbits on either side The projection forward in the case of an adult is from three to three and a half inches The margins where the inhaler comes in contact with the face are suitably shaped and are furnished with a soft air cushion in order that accurate adaptation can be secured and loss of gas by leakage prevented The inhaler for use when the patient is sitting up can be used for nose inhalation if required by placing the lower border above the mouth instead of below I am indebted to Mr J H Montague of 101, New Bond street London, for the manufacture of the inhalers and for his assistance and patience in carrying out my designs

To render an ordinary adult anæsthetic by this method an average expenditure of from seven to eight gallons of gas is required a further amount of three or four gallons for each additional minute will suffice to maintain anæsthesia A patient does not inhale more by this plan when properly carried out than by any method which does not involve re-breathing of expired gas The length of time which elapses between the removal of the face-piece and the return of consciousness is proportionate in a great measure to the length of time that complete anæsthesia has been kept up As with other anæsthetics care must be taken that no mechanical obstruction to respiration such as the falling back of the tongue &c, is allowed to occur

In conclusion I append a few of the more interesting cases which have been anæsthetised in this way

1 The patient was a thin woman, aged 22 years, of fair, florid complexion She was four and a half months pregnant. She dreaded the gas previous experiences having been unpleasant She went quietly to sleep and did not stir until after the dental operation was completed There was no subsequent discomfort She had no recollection of losing consciousness

2 The patient was a woman aged 22 years She was lying down The operation which was on the hand lasted 11 minutes At first there was slight drawing up of one leg but otherwise she lay perfectly still She was unaware of having "had any gas as she had felt nothing Within two minutes of the removal of the face piece she expressed herself as feeling 'as well as ever she did in her life"

3 A big florid strong man having had gas by the closed face piece became so violent that no operation could be performed upon him After an interval of 15 minutes gas was given with an open inhaler The patient went quietly to sleep until the operation was completed when he awoke quietly After the operation (the extraction of roots with an elevator) had continued for a minute and 45 seconds gas was readministered and the operation was continued for 40 seconds longer The patient felt no pain and found the gas not unpleasant

4 In this case the patient was a woman, aged 55 years, who had a large goitre There was some dyspnœa which was always aggravated by pungent smells She took the gas well and sank quietly into a sleep which was undisturbed by a change to ether. She remained quiet for 48 minutes During the operation (laparotomy) there was no change of colour or difficulty in breathing from first to last

5 The patient an old man who was suffering from acute bronchitis and atheromatous arteries, was in bed Gas was given for two and a half minutes The patient manifested no change in appearance or breathing, he knew nothing There were no after effects The operation was the incision of an abscess

6 A girl, aged 15 years was operated upon for the removal of a growth from the plica semilunaris She was under the anæsthetic for three minutes and remained perfectly quiet There were no after effects and no sensation

7 The patient a girl, aged 19 years was the subject of sapræmia jaundice and congestion at the base of one lung The temperature was 104° F and the pulse was 150 Anæsthetisation was commenced with gas and ether and was continued with chloroform Laparotomy was performed for exploration The patient recovered well from the anæsthesia There was no vomiting or nausea

In all cases where time is mentioned reference is made only to the actual duration of the operation as taken with a stop-watch

Old Burlington street, W

CASE OF A FOREIGN BODY IN THE ALIMENTARY CANAL ULCERATING ITS WAY OUT THROUGH THE ABDOMINAL WALL

BY F PRICE JONES, M R C S ENG, L R C P LOND

For the opportunity of seeing, and for permission to report, the following remarkable case my thanks are due to Mr D Howell Thomas of Swansea who in his capacity of visiting medical officer to various public institutions had the professional care of the patient during the two periods involved

The patient was a woman, aged 33 years in whom a deficiency of intellect was to some degree compensated by an excess of cunning and to whom the common expression 'a well known character in its less desirable sense would be applicable In June and July, 1895 she was under observation for some weeks and during that time developed the habit of tearing up her clothing for no obvious reason, but careful watching resulted in the discovery that she was persistently swallowing shreds of the torn articles which on many occasions were detected in her stools Various and stringent measures were taken to prevent the practice but they were of no avail and the habit was continued up to the day on which for a time she passed out of sight

After a very brief interval she came under observation again at another place where as before she was not unknown and where the recently acquired habit of eating her clothing soon attracted attention and caused much trouble Early in January 1896 the woman began to complain of abdominal pain which was constant in character, limited in position to the epigastric and umbilical regions and not much affected by taking food Up to the middle of February she was getting up daily partaking heartily of ordinary mixed diet and, in fact did not appear to be really ill At this time emaciation commenced, the pain increased in severity, and tenderness on pressure became a prominent symptom, no definite swelling could be made out but resistance to palpation was marked The patient was now kept in bed and given a lighter diet which she took well. The temperature began to rise, running up to about 102° F in the evening A week later a well defined tumour of about the size of an orange could be felt situated just above the umbilicus and not deeply placed, before long there was obvious swelling fluctuation could be obtained and no doubt now remained that an abscess had formed and was making its way to the surface, hot fomentations were applied and as the abscess became more superficial it tended to expand downwards below the level of the umbilicus When I first saw the patient she had been in bed for a fortnight Upon our arrival one morning the nurse reported that the abscess had burst during the previous night with the escape of two or three ounces of foul smelling pus The dressings being removed it was found that pus was exuding from a very narrow orifice situated one and a half inches below the level of the umbilicus and three quarters of an inch to the right of the mid line Mr Thomas having enlarged the opening by means of a dressing forceps a coloured object could be seen lying in the pus within the cavity, this was secured and withdrawn—a proceeding which had a singular resemblance to a clever conjuring trick, for the foreign body proved to be a strip of coarse blue cotton material measuring nine and a half inches in length by from two to three inches in width identified by the nurse as part of a day gown usually worn by the patient, along with it were some small shreds of red and grey woollen stuff corresponding to the material of two other garments, but this identification did not enable us to determine how long a period had elapsed since the articles had been swallowed because the corresponding garments had been torn on several occasions The abscess cavity was of about the size of a hen's egg and the sinus appeared to lead from its lowest quadrant—the most dependent part so long as the patient was up and about—and this was confirmed by the careful use of a probe

From this time the patient improved very rapidly the only treatment employed being syringing out with carbolic lotion, the sinus however persisted for a long time, it was not quite closed at the end of the year but two months later it was found to be soundly healed and the patient none the worse for her indigestible diet which since been resumed As recently as

1898, a small, clearly-defined, and sharply-depressed scar marked the site of the sinus. As to the treatment adopted it should be said that the general condition of the woman was at no time such as to give cause for alarm nor was the pain extremely severe, and so the surgical rule for promptly evacuating an abscess in the abdominal wall was ignored in favour of tentative treatment, the wisdom of this being finally vindicated by the result. All through the illness vomiting only occurred once or twice and the formation of the abscess was not accompanied by rigors; the absence of both of these symptoms in cases of "perigastric abscess" (which cases, it appears, have almost invariably a fatal ending) is remarked upon under that heading in Quain's Dictionary of Medicine. There was never any symptom of threatened intestinal obstruction. The sinus appeared throughout to be an ordinary sinus—that is to say, there was no evidence of its being a gastric or intestinal fistula. I have mentioned the small size of the external opening when first seen; an ordinary lead pencil would have been a close fit and so the possibility of the patient having inserted the fabric after the abscess had burst was quite negatived.

And now the question arises, From which part of the alimentary tract did the foreign body ulcerate its way? Without going into the anatomical and pathological *pros* and *cons* I do not think there can be much doubt that it was from the stomach.

Dobcross, Saddleworth.

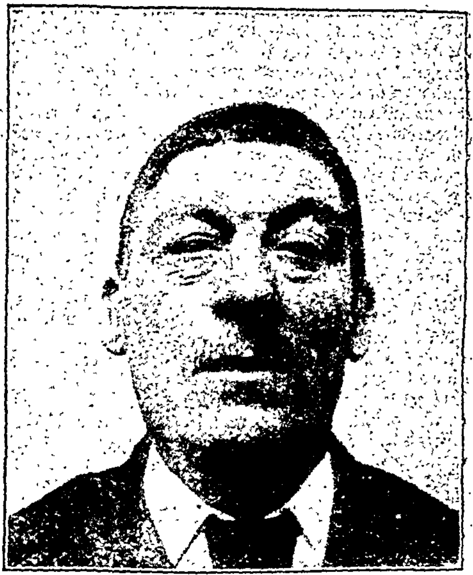
NOTE ON THE OPERATIVE TREATMENT OF ECTROPION.

BY H. CARTER MACTIER, B.A., M.B., B.CH. DUB.

THE causes of non-cicatricial ectropion are sufficiently well known, as also are the methods of treating this deformity by operation—viz., Snellen's suture, tarsorrhaphy, and Kühnt's operation—and they need not be discussed here. I shall therefore proceed to describe the details of what I believe to be a new method of operation.

In September, 1897, while I was doing duty for the visiting surgeon to the Wolverhampton Eye Infirmary a man was placed in my charge who was suffering from a senile ectropion of the left side, the palpebral conjunctiva overhanging the skin for about two millimetres. This condition had arisen in the previous April. He had been operated upon for the relief of the deformity on August 14th, Snellen's suture being the method employed, but on the removal of the suture the lid reverted to its former faulty position and it was therefore necessary to adopt some other procedure. On Sept. 10th the patient was anæsthetised with ether and I performed the following operation. A Jäger's bone plate lid-holder being placed in the left conjunctival sac and being held in position by an assistant I made a cur d incision with the concavity upwards parallel to and a two centimetres below the free border of the lid, incision being about three centimetres in length. I t carefully dissected in an upward direction through t tissues, keeping posterior to the tarsal cartilage, until the conjunctival sac was exposed and freed from attachments except at its junction with the edge of the skin at the margin of the lid. The lid-holder greatly facilitated this part of the procedure. All hæmorrhage being stopped with pressure a fine silk suture was passed after the method of Snellen, the free ends being brought out just below the lower margin of the skin wound, then a double-pointed horsehair suture was passed from the bottom of the conjunctival sac and the free ends were brought out below those of the silk suture. Both sutures were then drawn tight and tied, the tension exerted being just sufficient to produce a slight amount of entropion and the hair suture holding the bottom of the freed conjunctival sac at the level of the wound in the skin, the last wound being then sutured with a few points of horsehair. Iodoform powder was dusted on and a Gamgee pad smeared with iodoform ointment (15 grains of iodoform to one ounce of vaseline) placed over both the eye and the skin wound, the whole being secured with a roller bandage. The wound healed by first intention and I removed the sutures on the fifth day, the result being excellent, as the accompanying figure, copied from a photograph which was taken a month after the operation, shows. I must express my regret at not having had the case photographed also when the deformity existed, since a comparison of its condition before and after the operation would have had still more interest for the reader.

The failure of Snellen's method in this case was, I believe, largely due to the fact that when that method was devised suppuration was the rule and asepsis the exception, therefore the suture, by causing a septic tract, produced cicatricial bands which contracted on healing and thus cured the condition, but now when suppuration is almost a thing of the past the lid simply reverts to its faulty position when the suture is withdrawn. In the operation which I have described above the conjunctival sac and therefore the palpebral conjunctiva are pulled downwards and by healing in at a lower level draw the edge of the lid upwards and inwards thus producing a cure. The advantages I claim for this method are (1) that it is applicable to cases where Snellen's method fails, (2) that the scar left by the incision in the skin being in a natural fold is not so apparent as that of Kühnt which is vertical, and (3) that the tarsal cartilage does not require to be cut and the difficulty of bringing the two sides of a V-shaped incision together—a seemingly simple but practically very difficult matter—when doing Kühnt's operation is therefore avoided.



Wolverhampton.

Clinical Notes:

L GICAL, OBSTETRICAL, AND RAPEUTICAL.

NOTE ALYSIS FOLLOWING HERPES CIALIS.

B TER, M.B., C.M. EDIN.

JUDGING from the literature on the subject danger from eye complications in cases of herpes zoster ophthalmicus involving the supra-orbital branch only of the first division of the fifth nerve would appear to be too infrequent to call for serious apprehensions. This statement would, perhaps, not apply in those examples of herpes in which the eruption occurs on the cutaneous area supplied by the nasal branch. Induced by these considerations I wish to place on record the details of a case now under my care in which ocular paralysis has become the most prominent and (to the patient) most troublesome, if not, in view of other possible contingencies, the most serious symptom.

On Jan. 3rd, 1898, I was asked to attend a man, aged 30 years, for a supposed attack of erysipelas commencing over the right eyebrow. The history given of the case up to the time of my first seeing the patient was that common to most cases of herpes—viz., the primary patch of erythema follow[illegible]he vesicular stage, the entire patch being limited to th[illegible]of the forehead and the nasal border of it defini[illegible]urately the mesial line. Neuralgia in this insta[illegible]gan on the day preceding the first appearance of the eruption. A special feature about the arrangement of the vesicles which I think worthy of note was the tendency to confluence, and in consequence of this there was presented an uncommonly well-marked resemblance to that of pemphigus. The contents of the bullæ were at an early stage dark from admixture with blood. The neuralgic pains ceased on the third day, at which time there was nothing to indicate impending ocular trouble beyond the appearance of superficial congestion of the eyeball. There were brawny swelling and redness of the eyelids so that they could not be separated by any ordinary effort made by the patient. The eye, however, was carefully exposed each day and examined for evidence of iritis or impairment of vision from other causes, but these daily inspections revealed negative results until the tenth day, when upon examination the following condition was observed. The pupil was dilated and fixed, and was little affected by the use of eserine. The accommodation was paralysed, with micropsia, and there was crossed diplopia and divergent strabismus. The evidence supplied by the use of a lighted candle showed the superior internal and inferior recti to be affected and the inferior oblique less markedly so. The amount of ptosis which might exist from the now apparent implication of the third nerve was difficult to estimate from the difficulty of eliminating other obvious causes. A satisfactory ophthalmoscopic examination was also not easily made owing to the obstacle presented by the previously mentioned condition of the eyelids. Distant vision, however, was good. The prospect of the ultimate and complete recovery of the functions of the external ocular muscles which are affected, and the disappearance of the iridoplegia, &c. I think to be favourable, as these symptoms arise from a cause which is apparently peripheral and temporary.

The treatment adopted up to the present time has been that applicable to herpes, with a regular instillation of sulphate of eserine and rest to the eye. Massage and electricity with strychnine administered hypodermically will, I hope, form an appropriate treatment later. The employment of mechanical means to overcome the ptosis would form a necessary preliminary to the use of prisms, or a convex lens for near vision.

Ryhope, Durham

A SUGGESTED MODIFICATION IN THE TECHNIQUE OF THE OPERATION OF PAN-HYSTERECTOMY.

By O. E. PURSLOW, M.D., M.R.C.P. LOND.,
HONORARY OBSTETRIC OFFICER, QUEEN'S HOSPITAL, BIRMINGHAM.

THE operation of pan-hysterectomy or complete removal of the uterus, including the cervix, by combined abdominal and vaginal incision is coming into gradually increasing favour, and in my opinion is the best operation for most cases of uterine fibroids in which surgical treatment is indicated. The best description of this operation with which I am acquainted is one by Christopher Martin of Birmingham in the *Edinburgh Medical Journal* for March, 1896, and this description with its accompanying diagrams has been adopted in the text-books of both Lewers and Macnaughton-Jones. The identification and incision of the vaginal wall when reached from above by stripping off the bladder from the front of the uterus constitutes one of the main difficulties of the operation. Various directions are given by different authors for doing this. Thus Martin in the article above mentioned recommends that a strong Spencer Wells forceps should be pressed up against the vaginal fornix by an assistant, the operator cutting on to the point of the forceps with scissors. Webster advises that a sound should be passed up in the same manner and pressed against the fornix and Penrose, the author of an American text-book, says, "The position of the anterior vaginal fornix may be determined by palpation and percussion, a drum-like sound is obtained by snapping the finger upon the tense vaginal wall." I venture to point out a much simpler method than any of the above. The woman being placed in the lithotomy position the vaginal mucous membrane is incised all around the cervix and the separation of the cervix is carried up as far as may be convenient; in many cases, however, it will be found that the cervix is so lifted up by the tumour as to be almost out of reach, and little can be done beyond incising the vaginal wall. This step has been advocated and practised by several surgeons, but the additional modification which I would suggest and which I believe has not been brought forward before is that the vulsellum forceps which has been fixed in the anterior lip of the cervix should be left there until it has been reached by the finger from above in the second stage of the operation. I have adopted this simple manœuvre recently and have found that it gave very great assistance in a difficult part of the operation.

Birmingham.

REMOVAL OF A FOREIGN BODY FROM THE FOOT WITH THE AID OF THE FLUORESCENT SCREEN AND ROENTGEN RAYS.

By E. W. DIVER, M.D. DURH., M.R.C.S. ENG., L.R.C.P. LOND.

THE case here recorded may be of interest as an illustration of the difficulty often experienced in finding a foreign body, even though a skiagram may clearly indicate its relation to surrounding structures, and of the comparative ease with which removal may be effected with the aid of the fluorescent screen.

A woman, 60 years of age, consulted me in August, 1897, stating that 10 years previously she had stepped on a needle which had broken, leaving a portion embedded in her left foot, and that ever since then she had suffered from pain varying in intensity, but at all times sufficient to make walking very difficult and occasionally impossible. A skiagram was taken and the fragment was clearly displayed lying apparently between the third and fourth metatarsal bones. On August 31st the patient was placed under ether in expectation that the foreign body would be easily found and removed, but though a diligent and somewhat prolonged search was made the operation was unsuccessful. On Dec. 11th Messrs. Brady and Martin of Newcastle-on-Tyne kindly sent the Roentgen ray apparatus to the patient's house and a second operation was performed. Before the administration of the anæsthetic the foot was carefully examined with the aid of the fluorescent screen, the rays being transmitted in various directions through it. In this way it was ascertained that the needle was lying parallel with, and between, the third and fourth metatarsal bones. Ether was then administered and an incision was made in the sole, but again the needle could not be found. An antiseptic pad was then placed over the wound and a small incision was made in the dorsal surface of the foot. The screen was placed against the sole and the vacuum tube about 12 inches from the dorsum; the current was then switched on and a small hook was inserted into the dorsal wound, the shadow of the hook and that of the needle being sharply outlined on the screen. By a little careful manipulation the hook was passed around the needle and the tube and screen were removed. Daylight being then admitted to the depth of the plantar wound, the needle was easily extracted. The wounds were healed on the eighth day and the patient made a good recovery.

Although a written description may make the proceeding we adopted appear to be awkward, in practice it was exceedingly simple. This method may be of value to those who have not at hand Mr. Mackenzie Davidson's very ingenious and elaborate apparatus for localising foreign bodies. My thanks are due to Dr. Horace Paige of Gosforth who kindly administered the anæsthetic on each occasion, and also to Dr. W. Martin, of the firm of Messrs. Brady and Martin, who has given much time and attention to the practical application of the Roentgen rays and to whose skilful manipulation of the apparatus the successful issue of the operation was largely due. So clearly was the shadow of the needle depicted upon the screen that Dr. Martin expressed the opinion, contrary to the emphatically expressed statement of the patient herself, that we had to deal with the eye end and, further, that the eye itself was broken. Examination of the needle after its removal proved the correctness of Dr. Martin's view. It was a [illegible] and was one inch in length.

Jarrow-on Tyne.

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv, Proœmium.

MIDDLESEX HOSPITAL.

A CASE OF RAPIDLY GROWING OVARIAN TUMOUR COMPLICATING PREGNANCY; OVARIOTOMY; RECOVERY.

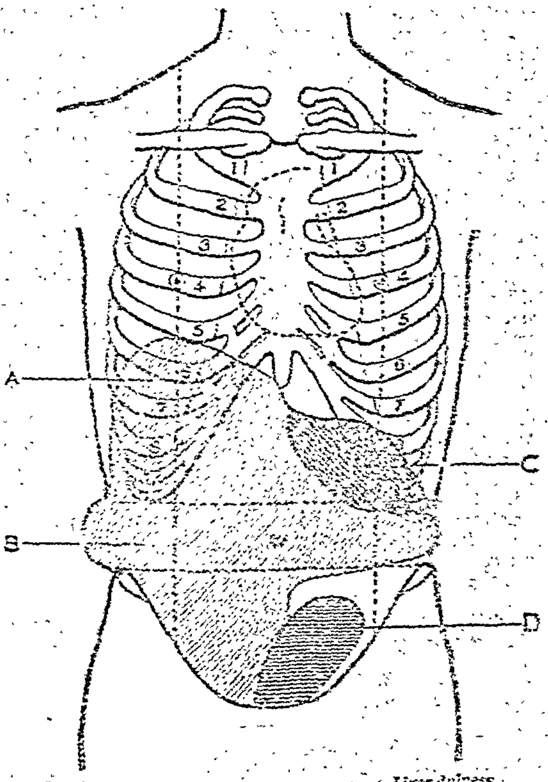
(Under the care of Dr. WILLIAM DUNCAN.)

IT would be difficult to find a case which exhibits more clearly than the one recorded below the diagnosis and the treatment of that most important complication of pregnancy, an ovarian cyst. It is not very long since many gynæcologists hesitated to attempt the removal of a cyst of the ovary when occurring during pregnancy from a fear that abortion was likely to occur. It is now recognised that on the whole there is much less danger from an ovariotomy during pregnancy than from the presence of an ovarian cyst during labour and that with ordinary care the risk of an abortion is extremely slight. For the notes of the case we are indebted to Dr. J. T. Wills, obstetric house physician.

A married woman, aged 21 years, was admitted into the Prudhoe Ward of the Middlesex Hospital on Nov. 29th, 1898, complaining of swelling in the abdomen. She was sent to Dr. Duncan by Mr. S. Peake of Shepherd's Bush. She was a pale, dark-haired woman. She had had two children; the last was born fifteen months ago. She had never been laid up apart from the confinements. Menstruation began at the age of 15 years and was regular every four weeks, and had lasted six days, two or three diapers being used daily. There was never any pain or headache. She had sometimes passed clots and shreds. She had no intermenstrual leucorrhœa. After the amenorrhœa consequent on her last pregnancy and lactation she had periods during seven months and the last period (from July 30th to August 5th) was normal in character. In June, 1898, the patient's friends told her that for some weeks they had observed that she was getting stouter, but she did not notice anything herself until September when she missed a "period." Since then she had been getting larger very rapidly, but she was unable to say where the swelling first appeared. Since September she had been unable to continue her laundry work, but had attended to her household duties. In October she had frequent but painless micturition. On Nov. 24th she had retention of urine and a catheter had to be used.

On admission the abdomen was much distended, being very prominent anteriorly and also somewhat prominent in the flanks, more especially on the right side. In the middle line there was a line of pigmentation running from the symphysis pubis to midway between the umbilicus and the ensiform cartilage. On palpation the abdomen was found to be occupied by a large swelling (with ill-defined edge in most parts) which reached (as shown in the accompanying illustration) from the costal margin to two fingers' breadth below the umbilicus on the left side, while on the right side it extended down to the pelvis; laterally it extended from the middle line six and a quarter inches on the left side and eight and a quarter inches on the right side. The surface of the tumour was smooth and fluctuation could be made out over the part lying to the right of the middle line. In the left hypochondrium a firm mass was felt, the long axis of which was inclined downwards and outwards: no definite separation of this from the cystic portion could be made out. There was dulness over the whole of the swelling and none of the dulness was modified by change of posture. The flanks were resonant. In the left lower part of the abdomen and rising out of the pelvis could be felt a pear-shaped, firm, elastic tumour (D) reaching to within four fingers' breadth of the umbilicus; over this a well-marked uterine souffle could be detected. Above this tumour there was a transverse depression separating it from the large swelling and at this line the percussion note was sub-resonant. The liver dulness (A) began at the fifth rib in the right nipple line and from this point downwards there was no resonant interval. The measurements of the abdomen were as follows: from the umbilicus to the right and left anterior superior iliac spines, 9½ inches and 9 inches respectively; from the umbilicus to the pubes and to the ensiform cartilage, 7½ inches and 6½ inches respectively; circumference of the abdomen at the umbilicus, 37¼ inches, and 2½ inches above it 33 inches. Per vaginam the cervix uteri was found to be anteposed; the os uteri was soft and patulous, admitting the finger tip. There was some violet discolouration of the vagina. The breasts were flabby and some dilated veins could be seen coursing over them and the areolæ were large and dark.

On Dec. 9th the patient was anæsthetised and an incision three inches long was made between the umbilicus and the pubes. When the peritoneum was opened about six ounces of free fluid escaped. The gravid uterus was seen in the lower part of the abdomen, while above it was the cyst. The latter was tapped with a Spencer Wells trocar and 126 ounces of clear, greenish-yellow, somewhat tenacious fluid were withdrawn. The cyst wall was brought out through the incision and the opening into it was enlarged. A finger was then introduced into the cyst so as to break down the numerous smaller cysts in the more solid portion of the tumour; these contained thick gelatinous material. The whole tumour was next drawn out through the wound and was found to spring from the right ovary. The pedicle was transfixed and tied in the usual way with silk one and a half inches from the uterus. The left ovary and tube were found to be normal. The abdominal wound was closed in three layers: (*a*) fine continuous silk for the peritoneal edges; (*b*) interrupted silkworm gut for the sheaths of the recti; and (*c*) continuous fine silk for the skin. The wound was dressed with cyanide gauze and sal-alembroth wool and a flannel binder was firmly applied. The patient made an uneventful recovery with the exception that the skin incision was very slow in uniting.



Ovarian tumour complicating pregnancy. A, Liver dulness. B, Cystic portion of the tumour. C, Solid portion of the tumour. D, Gravid uterus.

Remarks by Dr. DUNCAN.—When an ovarian tumour commences to grow coincidently with pregnancy it usually enlarges with increased rapidity (as seen in the above case) The diagnosis of this complication is sometimes exceedingly difficult I have seen an extreme case of hydramnion diagnosed as ovarian cyst, but in hydramnion the intermittent uterine contractions can be felt, besides which some parts of the fœtus can be detected through the fluid Usually when an ovarian cystoma complicates pregnancy the two tumours are separated by a longitudinal sulcus but in this case the depression was transverse. Then, again, auscultation is very valuable, as a uterine souffle (and perhaps the fœtal heart) can be heard over the gravid uterus but not over the cystoma There is at the present day a general consensus of opinion that the proper treatment of an ovarian tumour complicating pregnancy is to perform ovariotomy Tapping a cyst is quite unjustifiable in my opinion, as one never can be certain of the nature of the cyst contents (especially of pelvic cysts), and the fact of pregnancy co existing renders ovariotomy little (if any) more dangerous to the mother Practically the only extra risk is that of causing abortion or premature labour Particularly is this the case if there be adhesions between the uterus and the ovarian tumour It has been recommended in the case of pelvic tumours to perform vaginal ovariotomy but personally I prefer in all cases to open the abdomen I have removed two dermoid pelvic tumours in patients who were in the ninth and eighth months of pregnancy respectively and in both cases I was able to push the gravid uterus to one side of the abdominal cavity whilst the tumour was got up out of the pelvis and removed When an ovarian tumour is detected for the first time after labour has set in the treatment will depend on the position of the tumour and also on the extent to which it interferes with the passage of the child. A cyst in the abdomen which is of moderate size and does not prevent the head from engaging in the pelvic brim may be left alone until after the puerperium, but when it is of large size and subject to injurious pressure it had best be removed by ovariotomy The cases however, which are most dangerous and difficult are those in which a tumour in the pelvic cavity (often dermoid in character) causes more or less obstruction to the passage of the child As a rule these are not detected until labour has set in, when this is the case the first indication is to try to push the mass out of the pelvis by means of vaginal or rectal manipulation when the patient is completely anæsthetised In the event of this proving successful the uterus should be pressed down so as to prevent the tumour falling back and delivery effected by forceps as soon as the os uteri is sufficiently dilated After the reduction of such a tumour the patient must be carefully watched during the puerperium for signs of suppuration of the tumour or twisting of its pedicle, either of these complications calls for immediate ovariotomy otherwise the operation can be deferred until the patient is convalescent after her confinement But supposing that the tumour cannot be pushed up out of the pelvis, what then is the best course to adopt? It has been recommended to puncture the tumour, draw off its fluid contents, and then deliver the child either by the forceps, version, or craniotomy, but although successful cases of this kind are recorded it is a method of treatment which in my opinion exposes the mother to too great risk whilst it at the same time usually involves sacrificing the child's life If I had to deal with a case of labour complicated by a pelvic tumour I should first attempt (under anæsthesia) to push the tumour above the pelvic brim Failing in this I should be guided in the further treatment by the surroundings of the patient and the presence or absence of skilled assistance With good assistance and surroundings I should open the abdomen, push the gravid uterus to one side (or even bring it outside) then pass my hand into the pelvis, bring up the tumour, remove it, and close the abdomen in the ordinary way, subsequently completing delivery with the forceps But if the tumour was found to be matted in the pelvis by numerous and dense adhesions I should perform Cæsarean section and having carefully sewn up the uterine incision I should proceed to remove the tumour In a case however in which the hygienic surroundings were bad and skilled help was unattainable the best course would probably be to make an incision into the tumour through the posterior vaginal wall scoop out as much as possible of its contents with the finger then pass some iodoform gauze into the cavity and deliver the child by forceps or version

ROYAL INFIRMARY, LIVERPOOL.

A CASE OF GUMMA OF THE LIVER TREATED BY OPERATION.

(Under the care of Mr RUSHTON PARKER)

THE diagnosis of gumma of the liver is often extremely difficult and the nature of the swelling may not be recognised until an incision has been made into it When this has been done there can be little doubt that removal of more or less of the contents will prove beneficial, for the amount to be acted on by the anti syphilitic treatment will be materially diminished At a meeting of the Clinical Society of London in November of last year Mr W G Spencer read an interesting paper[1] on Three Cases on Gumma of the Liver in which operation was followed by relief One of these closely resembled the case under the care of Mr Rushton Parker recorded below The fact that medical treatment will suffice to cause the absorption of a gumma need in no way deter us from removing in whole or in part these swellings if they have for any reason been incised In the skin the healing of many gummatous ulcers is often accelerated by scraping

A man aged 29 years was admitted into the Royal Infirmary, Liverpool, on June 17th, 1898 suffering from pain and a swelling in the region of the gall bladder About two years previously he had had abdominal pain vaguely described, but no swelling After medical treatment for a month he was relieved About five months before admission a convex swelling which was attended by increasing pain had appeared below the right costal margin and behind the abdominal wall The swelling was about two inches wide was continuous with the liver dulness, and moved downwards with inspiration There was no jaundice and no diagnosis was made beyond a suspicion that it might be a distended gall bladder An operative exploration was undertaken on June 27th through a slit in the right rectus muscle exposing the lump which was found to be in the liver. The convex projecting portion was cut into and proved to be only part of a very large structure which extended some four or five inches in each direction and was evidently a gumma being composed of grey friable lymphy, fibrinous material Not more than a third or a fourth part was capable of safe removal and under a stream of hot water the divided margins of the liver were stitched together, then the slit in the rectus muscle was separately sewn and finally the integuments were sutured The wound healed in 12 days without discharge and the skin sutures were then removed Three days after the operation the patient was given one sixteenth of a grain of perchloride of mercury and seven and a half grains of iodide of potassium in half an ounce of water three times a day The only rise of temperature was to 100° F. on the second day and to 99 5° on the next day

Remarks by Mr RUSHTON PARKER —Before going to the infirmary the patient had been seen a few times by Dr Pethick of Woolton who told me that he thought the swelling was either a distended gall bladder or an abscess of the liver, rather inclining to the former opinion and he had sent the patient to the infirmary with the idea of having the diagnosis cleared up Dr Pethick had prescribed sodic benzoate and salicylate without appreciable benefit No history of biliary colic had been elicited by Dr Pethick or by us nor had any of us observed any signs of biliary obstruction I had no more hesitation in removing a portion of this gumma than I had in leaving the remainder to be dealt with by anti syphilitic drugs No suspicion of syphilitic tumour having arisen it is impossible to say whether or not the drugs would have sufficed for relief, entire or partial, without operative interference The removal of tension and of a substantial part of this large mass of broken-down infiltration under antiseptic conditions was attended by a cessation of symptoms which had previously disabled the patient and healing occurred in the entire absence of adventitious wound complications It is of course not usual to excise either partially or totally gummata which in the first instance are recognised as such, though it not unfrequently happens that tumours are removed for sufficiently good reasons which afterwards or even at the time are discovered to be gummata Even after the administration of anti syphilitic drugs gummata do not invariably disappear and in critical situations such as here or in the brain it is agreed that too much valuable time should not be spent in the expectation of relief being obtained from drugs. When gummata have broken down, ulcerated through the skin, and become riddled with more or less septic sinuses they frequently heal under otherwise most unpromising conditions when once anti-syphilitic drugs are suitably administered. But it might have gone hard with the patient in the present case if that extensive gummatous area had suppurated after ulceration, perforation, and secondary infection of the interior. So it may be considered fortunate for him that the pain and other conditions led to an exploration which revealed the diagnosis in the absence of such complications. Though the extirpation was only partial it appeared at the moment of exposure to be very desirable as a help to recovery and in this it has apparently fully succeeded. The man was seen in November, 1898, when he was found to be free from all symptoms of disease and had a sound depressed scar at the seat of the operation.

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[1] THE LANCET, Dec [illegible], 189[illegible], p. [illegible]

Medical Societies.

CLINICAL SOCIETY OF LONDON.

Cases of Abdominal Section.—Rheumatic Tonsillitis.

A MEETING of this society was held on Jan. 27th, the President, Mr. LANGTON, being in the chair.

Mr. J. HUTCHINSON, jun., read notes of three cases in which he thought it necessary to perform Abdominal Section. In none of them was there any external wound. Case 1.—A man, aged 32 years, was run over and subsequently became collapsed. Slight abdominal distension and much tenderness were present with dulness beyond the left linea semilunaris which shifted with change of position. On the following day the temperature had risen to 102° F., and the abdominal distension had increased. On opening the abdomen he found it full of blood, but in spite of careful search he could find no vessel requiring ligature. Great relief followed the removal of the blood, but some oozing occurred subsequently, as evidenced by dulness in the flanks and the escape of blood into the dressings. He left the hospital a month later. Mr. Hutchinson raised the question whether the presence of effused blood within the peritoneal cavity was likely to prove injurious and he thought it was. Case 2.—A woman was brought to the hospital with symptoms pointing to intestinal obstruction. On opening the abdomen over two pints of clear, pale, yellow odourless fluid escaped. The intestines were slightly congested, the stomach was dilated, and the uterus was enlarged as at the third month of pregnancy. He was at a loss to discover the nature of the fluid and closed the wound. In spite of a passing improvement the patient aborted on the following day and died soon after. Post mortem the abdomen again contained a large quantity of the same serous fluid and the intestines showed signs of commencing peritonitis. Exactly in the middle line of the posterior surface of the bladder, one inch above the peritoneal reflexion, and therefore hidden from view, was a small round perforation one-seventh of an inch in diameter, through which urine could readily be expressed. The bladder and urethra were otherwise normal. If the nature of the fluid had even been suspected he thought it might have been possible to discover and repair the perforation. He surmised, under the circumstances, that the wound was caused by an unskilful attempt to procure abortion. From the history it seemed likely that urine had been leaking into the peritoneum for at least four days. He discussed the effects of effused urine in the peritoneal cavity and recalled that experiments on animals had shown that healthy urine might be injected into the abdomen without giving rise to much local reaction and that in moderate quantities it might be absorbed and the animal recover. Case 3.—A woman, aged 47 years, was admitted with the history that, previously in perfect health, while lifting a basket on the preceding day she had been seized with pain in the left side of the abdomen followed by vomiting and some collapse. A smooth, moveable tumour could be made out to the left of the middle line of about the size of a fœtal head. This was dull on percussion but there was no dulness in the flanks. Nothing of interest was made out by vaginal examination. On opening the abdomen a quantity of characteristic glairy fluid escaped and it was seen that the largest cyst of a multilocular ovarian tumour had ruptured. The fluid was sponged away but the cavity was not irrigated. Recovery followed. Admitting that the thin serous fluid of an ordinary ovarian cyst might if effused in the peritoneal cavity undergo absorption without giving rise to much trouble he asked whether this thick, glairy fluid would prove equally innocuous.—The PRESIDENT, commenting on the first case, observed that though blood in the peritoneal cavity need not give rise to septic mischief it would nevertheless be advisable to operate because one could not know the conditions which had given rise to the effusion and he related the case of a man who had received a bullet wound three inches below the nipple. As there was internal hæmorrhage he opened the abdomen and found that the liver had been extensively lacerated, but ultimately he managed to arrest the hæmorrhage and the patient recovered.—Mr. L. A. DUNN pointed out that the blood which had oozed after the operation although considerable in quantity did not seem to have done any harm. The President's case was not altogether parallel because the bullet-wound was, or might be, septic.—Mr. HUTCHINSON, jun., insisted on the great relief which had followed the operation in respect of the pain, adding that he had purposely left the lower part of the wound loose so as to allow of the escape of any subsequent effusion of blood.—Dr. BATTY SHAW, in reference to the third case, related the case of a woman who was admitted to hospital three days after labour. After delivery it was noticed that there was something abnormal in the abdomen and she was sent into the hospital with the diagnosis of rupture of an ovarian cyst. She died on reaching the ward and post mortem they found a pale straw-coloured fluid in the abdomen without any sign of inflammation and a collapsed ovarian cyst. He remarked that there had been no noteworthy increase in the quantity of urine passed since the accident. The fluid was thin, but that he suggested might be due to dilution with fluid secreted by the peritoneum.—Mr. CHARTERS SYMONDS related the case of a girl, aged 14 years, in whom he had recognised the presence of an ovarian tumour, but when she was on the operating table no trace of the tumour could be found, though there was nothing in the recent history pointing to rupture. He opened the abdomen all the same and found the peritoneal cavity full of serous fluid together with a ruptured ovarian cyst. The patient recovered. He also related the case of a woman, aged 35 years, who came in with a history pointing to rupture of an ovarian cyst. Owing to special circumstances there was a delay of some days in operating and when this was decided upon she was in a serious condition. She died from shock, and though there was much fluid in the abdomen there were no signs of inflammation. He thought that if he had not operated this patient might have recovered.—The PRESIDENT thought that the extravasation of a thick viscid fluid with the things that it might contain might not improbably determine peritonitis. He related the case of a woman with an ovarian tumour in which spontaneous rupture followed by shock and ultimate recovery took place no less than four times. After the last rupture he opened the abdomen and removed the collapsed cyst. There had never been any peritonitis or any adhesions.—Mr. HUTCHINSON, jun., in reply, asked what was the cause of death in Dr. Shaw's case, as there was no peritonitis. He mentioned a case in which a woman ruptured an ovarian cyst from being thrown forward in a cab.

Dr. BERTRAM ABRAHAMS read a paper on Rheumatic Tonsillitis. The material upon which this paper was based was mainly composed of cases of rheumatic tonsillitis observed by Dr. Abrahams during the last three years. A large number of cases of chorea, rheumatism, and cardiac disease, both in adults and children, had been investigated and tabulated and the resulting statistics compared with those of previous observers in order to ascertain as accurately as possible the relation of the affection of the throat to the rheumatism. The bacteriology of many of the cases had also been studied with a view to obtaining some light upon the etiology of the disease itself. The bulk of the work in so far as it related to children was done in the out-patient department of the Evelina Hospital for Sick Children. Dr. George Carpenter was kind enough to permit the use of the material and also to allow the results to be compared with his own works for the last ten years. Details were given in the paper of a number of cases illustrating: (1) the occurrence of endocarditis after non-scarlatinal tonsillitis without the intervention of arthritis or chorea; (2) tonsillitis immediately followed by a first attack of chorea

(3) repeated attacks of chorea each preceded by tonsillitis; and (4) the occurrence of sore-throats at various points in the rheumatic series. Clinically, five varieties of rheumatic throat affection might be distinguished. 1. Faucial erythema, the pharyngeal inflammation described by Trousseau as ushering in an attack of acute rheumatism. 2. Follicular tonsillitis. 3. Quinsy. Between these latter no pathological distinction could at present be drawn, though it was notable that when a patient had repeated attacks they were almost always solely of one kind or the other, an alternation being rarely observed. As was also the case with non-rheumatic forms, the follicular variety was commoner in children, quinsy in adults. 4. The abortive form described by Singer, in which the joint and muscle pains were vague. 5. Chronic rheumatic tonsillitis, described by Dr. Max Thorner; this affection was more probably gouty in nature. A statistical inquiry was made into consecutive cases of three distinct affections—namely, 248 of chorea, 43 of acquired heart disease in children unassociated with chorea, and 66 of rheumatic fever in adults. Of the cases of chorea in which a reliable history was obtainable 53·4 per cent. had a family or personal one of sore-throat. This was not associated with any marked predisposition to either arthritis or heart disease. Of the cardiac cases 66·7 per cent. gave a history of throat affections. Among the adults 45·5 per cent. had a definite throat history, 21·2 per cent. had suffered from ulcerated throats within three weeks of the attack of acute rheumatism, and 47·2 per cent. showed faucial erythema within two days from its onset. In children, where the commencement was insidious, faucial erythema was extremely rare. On the other hand, a large proportion of them had follicular tonsillitis when first seen, several being brought up on this account and either revealing cardiac disease when examined or developing chorea while under observation. There seemed little reason to doubt that in many of these cases the tonsils might have been the channel of infection. Bacteriological examination of the tonsils and their exudation in a large number of cases revealed the constant presence of streptococci and staphylococci, the former more frequently, but the latter oftener in pure culture. Similar organisms were found in the urine drawn from the bladder with all antiseptic precautions. Taking these results together with the discovery of the same microbes in the blood and affected joints in acute rheumatism by Sahli and others, the probability of the occurrence of infection through the tonsil became very strong. It was believed by many that the rheumatic patient was poisoned by the attenuated virus of a germ which when fully active leads to pyæmia. The following conclusions were put forward: 1. The more common varieties of rheumatic sore-throat fell into two main categories—faucial erythema and tonsillitis proper. 2. Faucial erythema was most common in adults, and rheumatic tonsillitis in children, in whom it usually assumed the follicular type, quinsy being more frequent in older subjects. 3. Faucial erythema was an initial manifestation of acute rheumatism and tonsillitis might be the actual primary lesion. 4. Many cases were now definitely on record in which endocarditis had followed a non-scarlatinal tonsillitis unaccompanied by joint pain. In numerous other instances the tonsillitis had immediately preceded an attack of arthritis or of chorea. 5. The presence of the same micro-organisms in the tonsils, joints, blood, and urine was evidence in favour of the participation of pyogenic cocci in the etiology of rheumatism.—Dr. **KINGSTON FOWLER** was glad to have Dr. Abrahams' confirmation of his own observations first published in 1880. He agreed that tonsillitis might be followed by rheumatism or chorea or endocarditis. He questioned the accuracy of the term "ulcerated sore-throat" since in ordinary tonsillitis no ulceration properly so-called was present. He recalled the case of a man who was admitted into hospital with quinsy for which he was being treated with chlorate of potash and iron. He remarked at the time that if he had seen this patient on his admission he would have felt disposed to give him anti-rheumatic remedies. Eight days after this while still in bed this patient had an attack of acute rheumatism. He urged that if the rheumatic nature of these throats were recognised in good time and anti-rheumatic remedies administered the attack of rheumatism might be averted. He also mentioned the case of a man who had a sore-throat just before going on his holidays. He went mountain-climbing, nevertheless, and was laid up in the high Alps with a severe attack of rheumatic fever. He deprecated the use of the term "growing pains," such pains being in reality rheumatic.—Dr. J. W. **CARR** asked whether the diagnosis of these supposed rheumatic throats was made from the history or from the subsequent occurrence of rheumatism. In one of Dr. Abrahams' cases the interval between the sore-throat and the rheumatism was a year and in another 17 years. He suggested that an ordinary tonsillitis might attack rheumatic as well as other subjects. He had not been able to convince himself that anti-rheumatic remedies modified the course of these cases of tonsillitis. He defended the use of the term "growing pains" which he thought were actually as described. He himself had suffered therefrom, yet he was not rheumatic.—Dr. **LUCAS BENHAM** thought that any kind of sore-throat might be followed by rheumatism, but the sore-throat always seemed to precede the rheumatism and even to be the cause of it. He related a case of a child who had ordinary tonsillitis lasting three days and just when he was getting well there was a rise of temperature and a mitral murmur developed. He pointed out that when there was great œdema of the tonsils a slough might form at the point of contact and be followed by an ulcer.—Dr. G. A. **SUTHERLAND** admitted that it was difficult to demonstrate the connexion between sore throat and rheumatism, but some still asked whether erythema nodosum and chorea were rheumatic manifestations. He suggested that the tonsils might not be the only structures attacked and referred to cases in which there were headache, vomiting, and general malaise without any localising sign in association with well-marked tonsillitis in patients who subsequently developed rheumatism. He thought that the lymphoid tissue of the alimentary tract might share in the process and called attention to the occurrence of "rheumatic appendicitis."—Dr. **TOOGOOD** said that according to his experience most cases of follicular tonsillitis were of bacterial origin and were markedly infectious. The organisms which he had met with were streptococci and staphylococci and sometimes the short diphtheria bacillus.—Dr. **ABRAHAMS**, in reply, explained that "growing pains" and "ulcerated sore-throat" were merely colloquial expressions which one had to make use of in questioning patients. He was not satisfied that the anti-rheumatic treatment of these throats had any beneficial effect and he mentioned a case to show that the administration of the salicylates could not be relied upon to avert the subsequent occurrence of an attack of rheumatism. The non-success of anti-rheumatic treatment, he thought, was in favour of a bacterial origin. He concurred with Dr. Sutherland's remarks as to the gastro-intestinal disturbance in some of these cases. He pointed out that the germs referred to by Dr. Toogood were not invariably present and possibly an attenuated form was the true cause of rheumatism.

OPHTHALMOLOGICAL SOCIETY.

Rapid Changes in Refraction in connexion with Diabetes.—The Stereoscopic Examination of Skiagraphs of Foreign Bodies in the Eye and Orbit.—Exhibition of Specimens and Cases.

AN ordinary meeting of this society was held on Jan. 26th, Mr. H. R. **SWANZY**, President, being in the chair.

Mr. H. **GRIMSDALE** read a paper on Rapid Changes in Refraction in connexion with Diabetes. A female, aged about 45 years, was first seen on Oct. 7th, 1897. She had been always thin and delicate and had been losing flesh. She had been wearing for near vision—right, spherical + 1 D., cylinder + 0·75 D.; left, spherical + 1·75 D. She had suddenly noticed a change in the power of her sight a few days before her visit; distant objects became dim and near objects became clearer. When seen the vision of the eyes was $\frac{6}{60}$; with − 2 D. spherical and − 0·5 D. cylindrical for the right eye and − 2 D. spherical for the left eye the vision equalled $\frac{6}{6}$. The result was confirmed by the shadow test. In the right lens there were several opacities near the centre; the left lens was clear, but the nucleus in each was marked. No other defect in the eyes was found. The condition was regarded as early sclerosis of the lens and glasses for distance were ordered. Dr. Stokes had shortly before discovered a large amount of sugar in her urine (26 grains to the ounce). The urine had been frequently examined in previous years and had contained no sugar. After 10 days the vision had returned to its former condition, that of the right eye being $\frac{6}{18}$, with − 0·5 D. $\frac{6}{9}$, and of the left eye $\frac{6}{6}$. The right lens showed irregular astigmatism, but the opacities were unaltered. About three weeks later the patient died from diabetic coma. The interest of the case lay in the development of myopia and its rapid disappearance. A similar case was reported by Risley[1] in which disappearance of sugar in diabetes was accompanied by development of hypermetropia followed by a return to normal when the sugar reappeared. The cause is probably a lenticular one; it was impossible to assume an alteration in position of the retina; it was not likely to be due to spasm of the ciliary muscle as this would have involved a permanent spasm in Risley's case suddenly giving way and then reappearing.

Mr. **DOYNE** quoted the case of a diabetic man, aged 43 years, whose vision and refraction were hypermetropic 3 D. $\frac{6}{6}$. After a voyage vision was $\frac{6}{18}$ + 2 D. $\frac{6}{6}$. The sugar then disappeared under treatment and vision was emmetropic or hypermetropic 0·5.

Mr. **MACKENZIE DAVIDSON** gave a demonstration of the most recent changes and developments he had made in his method of investigating the presence and position of foreign bodies in the orbit and eyeball. Two negatives were taken, the light being changed in position about six centimetres, the interocular distance. If these were examined side by side against a window with a little practice in converging the eyes a miniature stereoscopic picture started into vivid relief and a fairly accurate estimate could be made of the situation of the foreign body in relation to a known point such as a piece of lead wire attached to the lower eyelid. The best instrument for seeing stereoscopic skiagraphs was Wheatstone's reflecting stereoscope. If the stereographs were reversed the object still stood out in perfect relief, but it appeared to be in the other eye; this would not give rise to any confusion as it would always be known in which eye the foreign body was lying. Mr. Mackenzie Davidson had applied his method of localising foreign bodies in the eye in 70 cases and he claimed for it an indispensable position in ophthalmic practice.

Mr. **SILCOCK** spoke of a case in which a foreign body had passed through the cornea and lens and was located by Mr. Mackenzie Davidson about six millimetres from the optic disc. Under an anæsthetic an incision was made through the sclerotic and the magnet introduced close to the foreign body which was withdrawn.

Mr. **ADAMS FROST**, Mr. **JOHNSON**, Mr. **TAYLOR**, and Mr. **CARGILL** spoke of cases under their care.

The following card specimens were exhibited:—

Dr. **J. HERN**: Obstinate Conjunctivitis.

Mr. **D. C. LLOYD OWEN**: The Cartella Eye Shield.

Mr. **W. H. JESSOP**: Skiagraph of a Foreign Body in the Eye.

Mr. **JOHN GRIFFITH**: Microscopical Specimen of Primary Sarcoma of the Cornea.

Major **M. T. YARR**, R.A.M.C.: Patch of Central Choroido-retinitis simulating in appearance the Optic Disc.

Mr. **C. HIGGENS**: Case of Removal of the Lens for High Myopia.

Dr. **E. C. FISCHER**: Associated Movement of the Lid and Jaw.

Dr. **A. BRONNER**: (1) Congenital Tumour of the Cornea; degenerated nævoid growth?; and (2) Tuberculous Tumour of the Iris.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Specimen.—Resolution on the Vaccination Act.—Exhibition of Radiographs.—Removal of Tumours.—Some Points in the Surgery of the Paralyses of Children.

A MEETING of this society was held on Jan. 26th, Dr. R. S. **ARCHER**, Vice-President, being in the chair.

Mr. **ANDREW STEWART** showed a Leg amputated for Sarcoma behind the Knee.

Dr. **PERMEWAN** moved:—

> That the members of the Liverpool Medical Institution are of opinion that the Vaccination Act, 1898, was enacted in direct opposition to the findings of the Royal Commission; that the operation of the Act will be prejudicial to the public safety and that its amendment is urgently required.

In introducing the motion Dr. Permewan said that he thought it the duty of every association of medical men to express themselves unmistakeably on the pernicious character of this Act. The principle of contracting out ought not to be applied to sanitary legislation; either vaccination should be absolutely voluntary or compulsion should be complete and efficient. It was most illogical to prosecute and convict of manslaughter parents who omitted to provide medical attendance for their children during illness because they conscientiously believed such attendance to be useless, and at the same time allow them on what were called conscientious grounds to neglect to provide for their children what the Royal Commission had found to be a protection against a specific loathsome disease. The results of the Act had been most lamentable.—The resolution was carried *nem. con.*

Mr. **C. THURSTAN HOLLAND** showed Radiographs of the Normal Chest of a boy and also of the Chest of a boy in whom the left apex was in a state of tuberculous consolidation. The difference was most marked, as also was the difference between the two sides in the affected child; this difference could also be plainly seen with the fluorescent screen. The exposure with a coil giving a 10 in. spark was 60 seconds; the boy was six and a half years of age.

Mr. **BANKS** described three cases of Removal of Tumours lying External to and Behind the Tonsil. The first case was that of a young man in whom the tumour had been growing for many years. It was removed by the mouth, a vertical incision being made over it, and was easily shelled out without hæmorrhage; it was found to be an adeno-fibroma, as had been diagnosed. The second was a precisely similar case in a woman, aged 40 years, with a history of two years' growth of the tumour. As she was very stout and full-blooded a preliminary laryngotomy was done and the pharynx was packed with sponge, but the bleeding was only trifling, and the tumour was easily shelled out with the finger. In the third case the patient was a woman about 20 years of age. A preliminary laryngotomy was done and the pharynx was plugged, then a free incision was made over the tumour and enucleation effected. The tumour was found to be adherent to bone and proved to be sarcomatous.

Dr. **PERMEWAN** described two cases of Tumours of the Œsophagus which he had removed by sub-hyoid pharyngotomy. The first patient, in whom the growth was benign, died from the immediate effects of the operation; the second recovered.—Mr. **NEWBOLT**, Mr. **BANKS**, and Mr. **LARKIN** spoke.

Mr. **ROBERT JONES**, in a paper on Some Points in the Surgery of the Paralyses of Children, deplored the lack of interest displayed by the profession in the treatment of these affections. Their pathology required working up and further experiments ought to be made. These should consist of inoculations at an early stage and of a search for the microbe. In view of recent experiments of his own, of outbreaks of an epidemic character at Stockholm, in America, and in Australia, there was strong evidence of the influence of infection. With care most of the deformities from poliomyelitis might be avoided, more especially those due to contractures. Mr. Jones discussed the question of tendon grafting and the conditions suitable to it. He thought the operation likely to prove very valuable in a number of cases. He had operated upon seven cases. In two he had inserted the sartorius into the tendon of the paralysed quadriceps. In two cases he had inserted the peronei into the paralysed tendo Achillis for talipes calcaneus. In one case he reinforced the tibialis anticus by means of the peroneus longus. Mr. Jones had operated upon over 60 cases of flail joints in accordance with the rules which he laid down in 1894. Suppuration only occurred in one case.—Mr. **MURRAY**, Dr. **WARRINGTON**, and Dr. **BARR** took part in the discussion of the paper.

EPIDEMIOLOGICAL SOCIETY.—A meeting of this society was held on Jan. 20th, Dr. Franklin Parsons, President, being in the chair.—Dr. Bruce Low read a paper on Epidemic Cerebro-spinal Meningitis, a disease in which, from its supposed infrequency in this country, little interest had been taken, and excepting the paper by Mr. B. Corney on an outbreak in Fiji 10 years ago it had been ignored by the society since 1865–67, when Professor Hirsch of Berlin and Professor Mapother of Dublin brought it before their notice. Four forms were generally recognised—the typical, the purpurous, the fulminant, and the abortive or chronic; the diagnosis of the last two was by no means easy, the definitions given in books applied to the first only, and many cases were mistaken for tuberculosis, typhoid fever, tetanus, influenza, sunstroke, and other diseases. Though its specific character was not recognised until the beginning of the present century he believed that it was not new to this country and that it had been the cause of much of the mortality previously ascribed to gaol fever and "malignant *fever with purples*." Few diseases, indeed, had been so variously designated, but at present the name of "cerebro-spinal fever" was the most approved, though the American and German vernaculars of "stiffneck fever" and "Genicksbarre" were very expressive. Cerebro-spinal meningitis, however, was a not infrequent complication of many febrile diseases and of those of the cranial bones and middle ear; this form was etiologically wholly different and never epidemic or communicable, or attended by purpura or the herpetic eruptions characteristic of cerebro-spinal fever, which was also marked by the absence of any associated disease. The epidemic fever had appeared from time to time in France, Switzerland, and America during the first half of this century, spreading later to Denmark, Italy (where in 1894 it caused 2000 deaths in a population of 30 millions), and since 1860 to Germany and the East and South-east of Europe. In 1865 there was a severe epidemic in Polish Prussia, 1900 persons being attacked and 1000 dying in the province of Dantzic alone. In the United States of America it was even more prevalent, especially in New York and other great cities, where in 1881 the deaths were equal to 0·34 per 1000 of the population. Having followed his history of the chief epidemics in Europe and America by a more detailed account of the various outbreaks in the British Islands down to the past year, he said that many deaths ascribed to influenza and other causes were probably due to this disease, and the occasional alleged instances of recovery from tuberculous meningitis, as well as the similarity in the curves of the yearly mortality from the several diseases in question, were suggestive of such confusion of diagnosis. Overcrowding, to which might be referred its greater incidence in barracks, asylums, &c., and cold and wet, whether directly or as leading to neglect of ventilation, seemed to be predisposing causes, but its infectivity was now generally admitted. Gaucher, Ughetti, Marchiafava, Celli, and Leichtenstern had between 1881 and 1886 observed micrococci in the cerebro spinal fluid of epidemic and other forms of meningitis, but they were all supposed to be identical with the pneumococcus of Fraenkel. Though Weichselbaum had in 1887 described a peculiar form of micrococcus, to which he gave the name of "diplococcus intracellularis," in six cases of the epidemic disease, it was not until 1895 that Jaeger of Stuttgart proved that this which he called "tetracoccus" was itself characteristic and causative of the epidemic cerebro-spinal fever, distinguishing it from the other forms of meningitis. His conclusions had since been fully confirmed by numerous observers in Germany, Austria, and America, and by Dr. Still in this country, who had by its means identified the so-called "infantile paralysis" with the disease under consideration. The tetracoccus was so constantly present in the nasal mucus of persons suffering from cerebro-spinal fever that Jaeger, Henbner, and others believed that the infection was always communicated through the nasal discharges, the profuseness of which in some epidemics, as that in Styria in 1898, had led to its being taken for influenza. Animals, too, were susceptible to cerebro-spinal fever, the epidemics of "influenza" among horses being doubtless due to this disease, as that in New York when 1412 died in the six weeks ending Dec. 2nd, 1872, many of them as reported at the time with meningitis and purpura which were looked on as complications, though 782 persons had died during the same autumn from cerebro-spinal fever. During the Irish epidemics of 1846 and of 1866–67 many pigs died from "the purples." Uspenski in 1896 reported a case in a dog and suggested that it was one of the diseases vulgarly comprised under the designation of "distemper." How far the disease might be spread by the intervention of domestic animals and how long or under what conditions the tetracoccus could maintain an extracorporeal existence were problems which with our recently acquired knowledge of the specific microbe distinguishing it from non-specific or pneumococcal meningitis we should ere long be in a position to decide.—Professor Notter said that the cases he had seen in India were exclusively among the men in crowded barracks, the officers, non commissioned officers, and married men having been exempt.—Mr. H. Stoit stated that in America the herpetic eruption was looked on as diagnostic of the specific disease.—Dr. Washbourn disapproved of the term "epidemic" since the specific disease was frequently sporadic especially among children. Influenza rendered the individual specially susceptible to pneumococcal infection which might set up a meningitis, but the nature of each case could be easily determined by the examination of the fluid obtained by aspiration in the lumbar region, which would show either tetracocci or pneumococci. —Dr. Still had found the tetracoccus in all the cases he had examined of the post-basilar meningitis of infants which he therefore believed to be identical with sporadic specific cerebro-spinal meningitis. In these the retraction of the head was very constant, optic neuritis was rare, but amaurosis was frequent, and he had seen the eruption though on two occasions only; the duration of this form was also longer but the seasonal incidence was the same, viz., in autumn and spring.—Dr. Bruce Low, in reply to a question, said that lumbar puncture if performed below the end of the cord was devoid of danger, easy, and almost painless, and in our present state of knowledge really indispensable to the correct diagnosis of all but typical cases. The cases associated with rheumatism, joint affections, parotitis, otitis, &c., were pneumococcal.

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[1] Transactions of the American Ophthalmological Society, 1897.

SOCIETY OF ANÆSTHETISTS.—An ordinary meeting of this society was held on Jan. 20th, *Dr. Dudley Buxton*, President, being in the chair.—Mr. Henry Davis, in reopening the discussion on the Choice of an Anæsthetic, said that the safety of the patient must be their first aim. He preferred to commence the administration with gas and ether, thus steadying the patient and enabling him to withstand the shock of the operation better. Subsequently he changed the anæsthetic if he deemed it desirable. In operations upon the upper air passages he employed gas and ether; when the operation was prolonged he continued with chloroform even though the patient was in the sitting posture. He regarded the position of the head as of importance and described the posture which he preferred in various operations. For abdominal operations gas and ether sufficed, but chloroform was often requisite to produce the necessary muscular relaxation. In "alcoholics," although gas and ether often answered, in some cases chloroform was required. In heart disease if serous effusions existed ether was practically contra-indicated. The same applied in diseases of the kidneys.—Mr. Warrington Haward did not agree with much of what had fallen from Mr. Owen about ether. Personally he believed that the anæsthetic when properly given was as suitable for children as for adults. Statistics certainly showed that it was the safer anæsthetic. Mr. Barker had said that the anæsthetic might be regarded from two points of view, that of the anæsthetist and that of the surgeon, but Mr. Haward thought the most important point of view was that of the patient, and he believed that this was invariably "safety." "Above all other things let it be a safe one." No adequate proof had been advanced which shook his belief that ether was in every sense the safer anæsthetic. As to its being less agreeable that was, even if true, which he doubted, a minor consideration. In abdominal surgery ether had always fulfilled his requirements, complete muscular relaxation being obtained. In operations on the throat the use of ether did not, he contended, increase hæmorrhage; although he had given ether successfully in staphylorrhaphy he admitted that chloroform was more convenient as was the case in operations on the larynx and upper air-passages. Cocaine he considered most dangerous for children. Possibly in cases of abdominal distension and intestinal obstruction with vomiting local anæsthesia by cocaine might be useful.—Sir Felix Semon contended that in chronic stenosis of the upper air-passages chloroform was the best anæsthetic, as ether increased the dyspnœa and the liability to subsequent pulmonary complications. He narrated a case in which he performed laryngectomy, the patient being anæsthetised with ether by the rectum. The patient died within 24 hours, mainly, he thought, from the severe complications set up by the ether. In operations on adenoid vegetations he contended that chloroform if skilfully given was the best anæsthetic, since it allowed the careful and not hurried performance of the operation. It was to be regretted that many persons undertook such cases without sufficient experience or manipulative skill, and this fact he submitted accounted for very many of the fatalities which had occurred when this operation was in progress.—Dr. G. H. Savage had found the insane take various kinds of anæsthetics with equal safety. Chloroform appeared to produce most after effects, causing in some instances mania, &c. As a curative agent in cases of violent mania chloroform was in Dr. Savage's opinion probably most useful. Certainly the insane, as a rule, took anæsthetics well.—Dr. Macnaughton Jones thought that in 90 per cent. of the cases requiring an anæsthetic ether was best on the grounds of its safety and celerity of action. Chloroform was unfortunately given by anybody and everybody. Every practitioner considered himself able to give it and the use of lint favoured this fatal error. He pointed out that collapse was often the result of the operation although attributed to the anæsthetic. Dangers occurring under ether were easily recognised and remedied; those following the use of chloroform were too often irremediable, but many of these were seen by the skilled and experienced anæsthetist and by his prompt action counteracted. Hence the importance of experienced anæsthetists whose knowledge enabled them to make a wise choice of the anæsthetic and to give it in the best manner. In organic lung disease and diabetes and in ophthalmic surgery he preferred ether, except in glaucoma. In gynæcological operations and abdominal surgery he preferred gas and ether. In cases of hysteria chloroform was his personal predilection. In every case, however, he felt strongly that the surgeon should after the facts of the case were placed before the anæsthetist leave him to make the selection of the anæsthetic.—Mr. Stanley Boyd was in agreement with Mr. Haward's remarks. He spoke of the dangers of chloroform in the hands of inexperienced house surgeons and believed that ether was a safe anæsthetic for children. He advocated morphia as a preliminary to anæsthesia and the lateral position for operations about the naso-pharynx and mouth. The restlessness of patients under ether during abdominal operations was often, he thought, the result of hurried anæsthesia and could be obviated with care.—Mr. Eastes preferred ether. In cases of shock, paralysis of the intercostals or diaphragm, and degeneration of the heart, in low blood tension, or cases in which the patient was sitting up, chloroform should not be given nor as a rule in cases of abdominal or pelvic surgery. For adenoid operations he gave ether but not gas, as the latter, he held, caused congestion. Diabetics took ether and chloroform well. Mr. Eastes had found the A.C.E. mixture useful and safe and he felt that the attack upon it was too severe. Cocaine he had found to be very dangerous, especially for children, causing faintness.—Mr. Carter Braine liked the A.C.E. mixture for children under six years of age; after that age he gave ether. He now gave the A.C.E. mixture in cases of abdominal distension and advocated preliminary lavage. In thyroidectomy he preferred a preliminary injection of morphia followed by chloroform.—After some remarks from Mr. Harold Low, Mrs. Dickinson Berry, Mr. Tyrrell, and the President, Mr. White replied.

NORTH OF ENGLAND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on Jan. 20th, the President, Dr. Donald, being in the chair.—Dr. Nathan Raw showed a Ruptured Uterus with an Ovarian Tumour removed by abdominal section after delivery of the child. The patient, a multipara, had been in labour for three days. She was then seized with sudden pain in the abdomen and hæmorrhage, with great collapse. On examination the vaginal vault was found to be pushed down by a large swelling above resembling an ovarian cyst. The os was high up under the pubes. The umbilical cord presented and the placenta was attached to the lower uterine segment. It was rapidly separated and a foot was brought down. Intestine was then discovered in the cavity of the uterus showing that rupture had occurred. The child was rapidly extracted with forceps to the aft[illegible]ing head, and a large rupture was then detected. Sa[illegible]id was injected and the abdomen was opened. The [illegible]al cavity contained a large quantity of blood-clot and [illegible]tents of the ovarian cyst which had undergone to[illegible] ruptured. The uterus was rapidly amputated and removed together with the cyst. The patient rallied well but gradually sank and died three days after the operation.—The President made some remarks on the case.—Dr. T. Arthur Helme read the notes of a case of Degenerating Fibroid removed together with the uterus by abdominal hysterectomy. The patient, who was 29 years of age, had suffered from severe pain and hæmorrhage for eight months and on one occasion had retention of urine. The administration of ergot caused very acute pain the result of uterine contractions and had to be discontinued. As the hæmorrhage was causing uterine anæmia operation was decided upon. The uterus filled the entire pelvis. Total abdominal hysterectomy was performed, the vaginal roof being entirely covered over by peritoneum. No drainage was used. The patient made a rapid and uneventful recovery.—Remarks were made by Dr. Davies, Dr. Walter, Dr. Lloyd Roberts, and Dr. Briggs.—Dr. W. E. Fothergill read a paper on Some Auto-intoxications of Pregnancy and the Puerperium. He said that there was a large amount of evidence in favour of the conclusion that eclampsia was the result of a general auto-intoxication. The urine though small in quantity was low in toxicity, whilst the blood serum was two or three times more poisonous than the serum of health. Necrotic and hæmorrhagic lesions were constantly found in the liver in these cases and it was probable that this organ was chiefly at fault. Jaundice was frequently found associated with eclampsia and in acute yellow atrophy the liver changes were an exaggerated form of the hepatic lesions found in eclampsia. The various disorders of the nervous system, such as peripheral neuritis, poliomyelitis, &c., which occurred in pregnancy were clearly toxic in origin and it was likely also that melancholia and mania of pregnancy were also intoxications. It was probable that the extra strain thrown upon the various organs of excretion during pregnancy might lead to a loss of equilibrium between the poison production and poison excretion in the body. Although the subject was not yet fully worked out the "auto-intoxication" theory formed a good working hypothesis, and might afford a new system of classification of the various troubles of pregnancy, a large number of which might in the future be classified under the term "hepatic toxæmia" as suggested by Pinard.—Dr. Gemmell (Liverpool) said that in the puerperium many cases classed as septicæmia were unassociated with the presence of pyogenic organisms in the discharges or the blood and he considered them as toxæmic cases arising from absorption either from the kidneys, liver, or alimentary canal.—Remarks were also made by Mr. Wright and Dr. Walter.—The following office-bearers were elected for the year 1899:—President: Dr. Donald. *Vice-Presidents*: Mr. J. Benson, Dr. J. Braithwaite, Mr. J. N. Cregeen, Dr. W. E. Fothergill, Dr. J. E. Gemmell, Mr. C. Richardson, Dr. W. J. Sinclair, and Mr. G. E. K. Thorpe. Honorary General Secretaries: Dr. Arnold and Dr. W. W. Lea. Honorary Treasurer: Mr. Richard Favell. Council: Dr. R. A. Brannigan, Dr. E. Buxton, Dr. C. N. Gwynne, Mr. D. L. Hamilton, Dr. T. A. Helme, Dr. J. B. Hellier, Dr. J. D. Leigh, Dr. J. Matthews, Mr. E. H. Monks, Dr. S. Nesfield, Mr. M. Smith, Dr. D. Lloyd Roberts, Dr. J. E. Scowcroft, Dr. J. P. Stallard, Dr. J. D. Martin, Dr. D. Smart, Mr. C. Vereker, Dr. W. Walter, Dr. R. E. Williamson, and Dr. A. E. Wear. Honorary Local Secretaries: Dr. J. Scott (Manchester), Mr. W. Fingland (Liverpool), Mr. E. O. Croft (Leeds), and Dr. H. Rhodes (Sheffield).

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 18th, Dr. Cattle, Vice-President, being in the chair.—*Dr. Michie read a paper* on Suppuration in the Neighbourhood of the Pregnant Uterus and gave details of seven cases which had come under his own notice. These cases fell into three groups: (*a*) In the first was a case of perityphlitic abscess due to perforation of the appendix vermiformis by a concretion in the fifth month of pregnancy. Dr. Michie performed an operation for the removal of the appendix and drainage of the abscess cavity which extended into Douglas's pouch where the concretion was found. The patient made a good recovery. (*b*) This group consisted of four cases of pyosalpinx in each of which the appendages were removed, in one during the fifth month of gestation, the patient afterwards going on to term, delivery and convalescence being in every way normal. In another case the appendages were removed during the fourth month. The patient was, however, suffering from severe septic poisoning due to a large quantity of putrid pus in the peritoneal cavity and extensive peritonitis. Miscarriage took place 24 hours after operation and she died on the fourth day. On two others, where there was also a large quantity of sero-purulent fluid in the abdomen the operation was performed almost immediately after delivery at the fourth month and at term respectively; in both instances recovery took place. (*c*) The third group consisted of two cases of suppurating ovarian cysts complicating pregnancy which Dr. Michie had met with. In one ovariotomy was performed during the progress of labour at the sixth month.

Delivery was completed four hours after the operation and though the patient's condition was extremely critical for some days she ultimately made a complete recovery. In the last case a suppurating cyst was removed during the fifth month of pregnancy, the patient making an easy recovery and being delivered of a healthy child at term. In the light of these cases Dr. Michie drew attention to the necessity of inquiring into the previous history of patients suffering from "puerperal fever," as they showed that not in every instance was that disease due to infection conveyed from without at the time of or shortly after delivery, but that occasionally septic mischief may be in existence some time before labour takes place and be greatly aggravated and become extremely serious by the mechanical effects of that process.—The paper was discussed by Dr. Cattle, Mr. Chicken, Mr. Hogarth, and Mr. Woods.—Mr. Lander read notes of a case of Pseudo-hypertrophic Muscular Paralysis, a complete history of the patient being given from birth to death which occurred at 16½ years. Photographs were shown illustrating various stages of the disease. The latest photographs were especially interesting as they showed well-marked hypertrophy of the temporal muscles.—Dr. E. O. Kingdon showed a patient who had a small Congenital Tumour visible beneath the Conjunctiva at the lower and outer part of the left orbit and projecting prominently when the lower lid was everted. Dr. Kingdon considered it was a dermoid.—Mr. Laws suggested fatty tumour as an alternative diagnosis.—Mr. Chicken showed the following specimens: 1. Fibroid Tumour of the Uterus. Abdominal hysterectomy had been performed. 2. Tubal Abortion. 3. Hydrosalpinx.—Dr. Michie showed a specimen of Malignant Disease removed from the Transverse Colon by Enterectomy. Union was effected by suturing only. The operation had only been done four days before the meeting but complete relief of all symptoms had been secured and there was every prospect of a good recovery. The growth was an ordinary columnar carcinoma.

KIDDERMINSTER MEDICAL SOCIETY.—A meeting of this society was held on Jan. 27th, Mr. E H. Addenbrooke, President, being in the chair.—Mr. J. Lionel Stretton showed: 1. A girl, aged 20 years, upon whom he had performed Excision of the Elbow-joint three years previously. She was now able to perform the duties of a domestic servant. She could carry a bucket of water and all her movements were perfect. 2. A Cystic Tumour weighing 3 lb. 12 oz. removed from the scalp of a man, aged 69 years. Four years previously a large sebaceous tumour was removed from the same situation. 3. A man, aged 63 years, upon whom he had operated for Recurrent Epithelioma of the Lip. In order to fill up the large gap a triangular flap of skin was dissected from the neck, turned up, and fixed between the two portions of lip with a satisfactory result.—Mr. W. Hodgson Moore showed a Melanotic Sarcoma removed from the cheek of a woman, aged 69 years. The growth supervened on a mole and she refused to have it removed until it had extended so much that considerable deformity followed the operation. Mr. Moore advocated the removal of all moles as he considered them so liable to malignant changes.—Mr. Oliphant showed: 1. The Brain of a woman, aged 50 years, who died in the hospital. There was a spindle-celled sarcoma of about the size of a turkey's egg growing from the meninges over the fissure of Sylvius on the left side and compressing the frontal and temporal lobes. The points of interest about the case were: a very indefinite history and the fact that her symptoms materially improved under iodide of potassium, her pulse was never rapid, her temperature was never subnormal, there was no vomiting or convulsion, and her mental condition remained clear to within a few hours of death. 2. Skiagraph of a Fracture of the Right Tibia in a young man, aged 21 years. He slipped at football and when admitted to the hospital there was so much swelling that an accurate diagnosis could not be made. The skiagraph showed a transverse fracture through the thickest part of the lower end of the tibia and a second through the internal malleolus which was displaced downwards to an extreme degree.—Dr. B. Addenbrooke showed specimens of Tubercle Bacilli in Milk.—Mr. J. Lionel Stretton read a paper on the Treatment of Tuberculous Disease. After an interesting discussion the following resolution was adopted: "That the attention of the local authorities be drawn to the importance of safeguarding the public from the spread of tuberculous disease."

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 17th, the Vice-President, Dr. Horrocks, being in the chair.—Dr. Rabagliati showed a Fibro-myoma of the Uterus weighing 11½ lb. which had been successfully removed. The case was complicated by the presence of a malignant tumour in the left breast.—Dr. Kerr read notes on two cases of Lateral Sinus Pyæmia.—Dr. Althorp read notes on a case of Lympho-sarcoma involving the Stomach, Colon, and Rectum. The patient was an unmarried woman, aged 29 years. The first symptoms of illness were in June, 1898, and consisted of diarrhœa and vomiting with fever. The fever persisted but the other symptoms subsided with rest in bed. On Sept. 10th she was admitted to hospital with symptoms of chronic intestinal obstruction and on examination a growth of the rectum was found. It infiltrated the surrounding tissues and almost blocked the lumen of the gut, not allowing passage of the finger past the obstruction. Left inguinal colotomy was performed on Sept. 21st; the fingers were introduced into the abdominal cavity and the pelvic contents were felt to be matted together. The patient progressed satisfactorily and the bowel was opened on the fifth day. For about six weeks she was able to be up and about the ward, but at the end of that time she began to complain of abdominal pain until her death on Nov. 16th. There had been free discharge of fæces all this time. A fortnight before death a swelling was noticed in the position of the transverse colon and during the last week of life she vomited freely. At the necropsy there was found a growth involving: (1) the stomach in its pyloric half, the small curvature and spreading up to the œsophagus; (2) the cæcum, ascending and transverse colon; and (3) the rectum, matting together the pelvic contents. There was only one secondary growth which was found in the bronchial glands.—Dr. Eurich gave a description of the Microscopic Appearances of the Growth, pronouncing it to be a Lympho-sarcoma. He discussed the nature of lympho-sarcomata and suggested a parasitic origin in the case under consideration, although there was no direct evidence in the shape of organisms.—Dr. Horrocks, Dr. Goyder, Dr. Hall, and Dr. Metcalfe discussed the case.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held on Jan 26th at 20, Hanover-square, W., the President, Dr. Fortescue Fox, being in the chair.—21 candidates were nominated for election.—Dr. Evelyn Crook read a paper on the Climate of Margate in Relation to Disease. He showed that the atmosphere of Margate was at all times free from the raw penetrating land fogs so prevalent in many places, and the various diseases for which a residence at Margate was particularly suitable were considered, stress being laid on the great benefit derived by patients suffering from tuberculous disease and phthisis in its early stages from a residence at Margate.—Dr. Brodie Cruickshank read a paper entitled Notes on Nairn, chiefly Climatic. Nairn, situated on the southern shore of the Moray Firth, had one of the smallest rainfalls in the United Kingdom, the average annual rainfall being 24 52 inches. The mean annual temperature for the last 10 years was 46·1° F. From June to February the prevalent winds were southerly and westerly; during March, April, May, and half June, winds from the north and east prevailed. The sea-bathing and drinking-water were good. Nairn was suitable for phthisical and tuberculous patients and had a great claim for consideration as a winter resort. Very little snow fell and mist and fog were almost unknown.—Dr. Solly, Dr. Bezly Thorne, Dr. Leon, the President, Dr. Septimus Sunderland, and Mr. MacHardy discussed the papers.—Dr. Evelyn Crook, in reply, said he believed that enlarged lymphatic glands were less liable to suppurate at Margate than in inland localities.—Dr. William Bain read a paper on the Action of certain Mineral Waters on the Biurate of Soda.—Dr. A. P. Luff said that the experiments conducted by Dr. Bain were interesting, but in his opinion it would have been better to have treated the solubility of sodium biurate in blood serum or artificial blood serum mixed with such proportions of the constituents of the waters as might reasonably be expected to be introduced into the circulation when the waters were taken.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—An ordinary meeting of this society was held at 20, Hanover-square, W., on Jan. 25th, the President, Dr. H. Radcliffe Crocker, being in the chair.—The

President read a paper on Recurrent Desquamative Scarlatiniform Erythema.—The following cases were shown:—The President: (1) A male patient with Lichen Planus; and (2) a male patient with a patch on the anterior surface of the wrist of Tinea Circinata. Fungus and mycelium from the case were shown under the microscope and also a drawing was exhibited.—The President also exhibited other interesting drawings.—Dr. Stowers: An infant with Lichen Planus and a patch of Lichen Verrucosus on the Right Index Finger.—Dr. P. S. Abraham: (1) A male, aged 50 years, with Dermatitis Herpetiformis; (2) a female, aged about 30 years, with Dermatitis Herpetiformis; and (3) Atrophodermia Guttata in a female about 30 years of age.—Dr. Russell Ryan: A case of Lichen Planus.—Dr. T. D. Savill: Two children, aged 10 and six years respectively, with (?) Psoriasis Guttata and (?) Lichen Scrofulosorum.—Dr. Savill also showed a girl, aged 19 years, with a Symmetrical Maculated-Purpuric Rash on the Thighs, Legs, and Arms.—The President, Dr. Abraham, Dr. A. Eddowes, Dr. Stowers, Dr. Savill, Mr. Pernet, and others took part in the discussions.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on Jan. 25th, Mr. Alex. Miller, President, being in the chair.—Dr. Edgar showed two Ovarian Dermoids removed from a patient by abdominal section.—Dr. John Lindsay read a paper on a case of Defective Development of the Limbs. Several drawings were shown.—Dr. Robert Jardine read a paper on Saline Injections in cases of Hæmorrhage and Eclampsia. Two examples of accidental hæmorrhage and three of post-partum hæmorrhage were described. In all bleeding was very profuse and the shock was extreme. All the patients recovered. Five cases of eclampsia were described. The first patient was practically moribund when seen by Dr. Jardine, and she died, although the saline injection seemed to improve her pulse for some little time. Cases 2 and 3 were very severe examples of the disease. They both recovered. The saline injection had a most marked effect in increasing the quantity of urine excreted. Dr. Jardine considered that the saline injection should only be used in conjunction with some drug to control the fits, such as chloroform, chloral and bromide, veratrum viride, and morphia. Morphia in large doses he was inclined to think was the best. The solution used in the cases of hæmorrhage was one containing a teaspoonful of common salt to the pint of boiled water to which was added in the cases of eclampsia a teaspoonful of bicarbonate of potash.

Reviews and Notices of Books.

Dictionary of National Biography. Edited by SIDNEY LEE. Vol. LIV., Stanhope—Stovin. Pp. 446. Vol. LV., Stow—Taylor. Pp. 486. London: Smith, Elder, and Co. 1898.

THE men of letters whose names appear in these two volumes include Robert Louis Stevenson, Dean Swift, and Laurence Sterne. Stevenson was born in Edinburgh in 1850. His father, two uncles, and grandfather, all of whom were engineers in that city, are also the subjects of notice in the Dictionary. Much of Stevenson's work appeared in various periodicals, but a collected edition in twenty-seven volumes was commenced in 1894 and finished in 1898. His first popular success was "Treasure Island," published in 1883, followed in 1886 by "The Strange Case of Dr. Jekyll and Mr. Hyde" and "Kidnapped," both of which greatly increased his reputation. Stevenson was an invalid from childhood; for the sake of his health he settled in 1890 near Apia in the Samoa Islands and died there in 1894. Laurence Sterne was the son of an ensign in the army and was born in 1713. Having taken holy orders, a vocation for which he had no fitness, he held various preferments in Yorkshire and died while on a visit to London in 1768, a month after the publication of "A Sentimental Journey." Dean Swift was born in Dublin in 1667 and died in that city in 1745. The notice of him is by Mr. Leslie Stephen and extends to 24 pages.

The biographies of medical men in the two volumes are 36 in number, including 1 President of the Royal College of Surgeons of England and 2 Presidents of the Royal College of Physicians of Ireland. Edward Stanley, born in London in 1793, was apprenticed to two successive surgeons at St. Bartholomew's Hospital, was admitted a Member of the Royal College of Surgeons of England in 1814, and gained the Jacksonian Prize in 1815. He was elected assistant surgeon to St. Bartholomew's Hospital in 1816, lectured on anatomy from 1826 to 1848, and was elected full surgeon in 1838—a post which he resigned in 1861. He was elected a Fellow of the Royal Society in 1830 and was President of the Royal Medical and Chirurgical Society in 1843. At the Royal College of Surgeons of England he held in succession the most important offices. He was elected a life member of the council in 1832, Arris and Gale Professor of Human Anatomy and Physiology in 1835, Hunterian Orator in 1839, and President in 1848 and again in 1857. He was appointed Surgeon-Extraordinary to the Queen in 1858. Stanley died in 1862. His principal published works were "Illustrations of the Effects of Disease and Injury of the Bones" and "A Treatise on Diseases of the Bones." Richard Steevens was born in Ireland in 1653, studied medicine at Trinity College, Dublin, graduated there as M.D. in 1687, and thenceforward practised as a physician in Dublin, where he amassed a large fortune. He was a Fellow of the Irish College of Physicians and in 1710 was elected President of that body. He died the same year and the bulk of his property was bequeathed to found a hospital in Dublin, which hospital, since known as Steevens's Hospital, was completed in 1733 at a cost of £16,000 and was the first public hospital established in Dublin. Dean Swift was one of its earliest governors. John Sterne, or Stearne, grandson of a Bishop of Meath, was born in Ireland in 1624, fled to England on the outbreak of the Irish rebellion, and in 1643 proceeded to Cambridge, where he studied medicine at Sidney-Sussex College. Returning to Ireland in 1651 he received the degree of M.D. from Trinity College, Dublin, in 1658 and practised as a physician. In 1660 he proposed to the University that a college or hall affiliated to the University, of which he had been constituted President in 1654, should be set apart for ever as a college of physicians. The arrangement was sanctioned and Stearne, on the nomination of the Provost and Senior Fellows of Trinity College, in whom the appointment was vested, became its first President. He died in Dublin in 1669. John Sutherland, born in Edinburgh in 1808, became a Licentiate of the Royal College of Surgeons of Edinburgh in 1827 and graduated as M.D. at the University in 1831. After spending much time on the continent he practised for a short period in Liverpool where he edited "The Liverpool Health of Towns' Advocate," and in 1848 entered the public service as an inspector under the first Board of Health. In 1855, at the request of Lord Palmerston and Lord Panmure, he became the head of the commission sent to the Crimea to inquire into the sanitary condition of the English soldiers. He took an active part in the preparation of the Report of the Royal Commission on the Health of the Army, dated 1858, and also of the Report on the State of the Army in India, dated 1863. Both reports were of the greatest importance to the welfare of the soldiers and most of Sutherland's recommendations were carried out. He retired in 1888 and died at Norwood in 1891. Alexander Patrick Stewart, born in East Lothian in 1813, studied medicine at Glasgow University, graduated as M.D. in 1838, settled in Grosvenor-street, London, in 1839, and there practised till his death. In 1850 he was elected assistant physician to the Middlesex Hospital and became physician in 1855, in which year he was elected a Fellow of the Royal College of Physicians of London. He was the author of several papers on medical subjects, but his title to recollection rests upon "Some Considerations on the Nature and Pathology of Typhus and Typhoid Fever applied to the Solution of the Question of the Identity or Non-identity of the two Diseases," read before the Parisian Medical Society on April 16th and 23rd, 1840. This paper was reprinted by the New Sydenham Society in 1884. The observations on which it is based were made at the Glasgow Fever Hospital. In this essay Stewart states clearly, from his own observations, the differences between the two fevers in origin, cause, course, symptoms, and anatomical lesions. Sir William Jenner's papers in 1849, 1850, and 1853 are written on the same lines as Stewart's and are regarded as having finally settled the question. Stewart died in 1883. Thomas Hawkes Tanner was born in 1824, studied medicine at King's College, London, and graduated as M.D. at St. Andrews University in 1847. In 1851 he was elected a physician to the Hospital for Women in Soho-square. In 1858 he took an active part in the foundation of the Obstetrical Society of London. In 1860 he was appointed an assistant physician for the diseases of women and children at King's College. He was a voluminous writer, his chief work being "A Manual of the Practice of Medicine," which has passed through seven editions. He died in 1871. James Syme was born in Edinburgh in 1799 and studied medicine in that city, becoming a Member of the Royal College of Surgeons of England in 1821 and a Fellow of the Royal College of Surgeons of Edinburgh in 1823. He commenced lecturing on anatomy in Edinburgh in 1823, added a course on surgery in 1825, and in 1833 was appointed Professor of Clinical Surgery in Edinburgh University. In 1838 he was chosen surgeon in ordinary to the Queen in Scotland. He acquired great celebrity both as a teacher and a surgeon and was the author of several published works, among which may be mentioned "On the Excision of Diseased Joints" and "The Principles of Surgery." He introduced the operation for excision of the elbow into this country and devised an amputation at the ankle-joint which bears his name. He died in 1870 and was succeeded in the chair by his son-in-law, Mr. (now Lord) Lister, who had previously been Professor of Surgery in Glasgow University. William Stokes was born in Dublin in 1804. He studied medicine and graduated in 1825 in Edinburgh and was the same year elected physician to the Meath Hospital in Dublin. In 1838 he founded the Pathological Society of Dublin and in 1839 the University of Dublin conferred upon him the degree of M.D. He discharged the duties of Regius Professor of Medicine in the Dublin University from 1843 and was elected F.R.S. in 1861. He was long the undoubted head of his profession in Ireland and wrote several important works, among which are included "Diseases of the Heart and Aorta" and "Lectures on Fever." He died in 1878. Octavius Sturges was born in London in 1833, served in India as a lieutenant of artillery, returned to England in 1857, and studied medicine at St. George's Hospital and Cambridge University, graduating there as M.D. in 1867. He became assistant physician at the Westminster Hospital in 1868, physician in 1875, and lectured there successively on forensic medicine, materia medica, and medicine. He delivered the Lumleian Lectures at the Royal College of Physicians of London on Diseases of the Heart in Childhood. He died in 1895. Thomas Sutton was born in Staffordshire in 1766 or 1767. He studied medicine in London, Edinburgh, and finally in Leyden, where he graduated as M.D. in 1787. He practised at Greenwich and to him is due the discrimination of delirium tremens from the other diseases with which it had previously been confounded. He died in 1835. Sir Robert Tabor or Talbor was born in Cambridgeshire in 1642 or 1643 and was apprenticed to a Cambridge apothecary. He devoted his attention to improving the methods of administering cinchona bark in the treatment of ague, and having prescribed it with success for Charles II. he was appointed one of the King's physicians in ordinary and was knighted in 1678. He also attended the Dauphin and the Queen of Spain. He died in 1681. Alfred Swaine Taylor was born in Kent, in 1806, studied medicine at Guy's and St. Thomas's Hospitals, and took the diploma of the Apothecaries' Society in 1828. The next few years he passed mostly on the continent, but in 1831 he accepted the professorship of Medical Jurisprudence at Guy's Hospital, then first created, and he held the office till 1877. His services were for a long period in much demand as a witness in criminal investigations and his works on medical jurisprudence and on poisons are standard authorities. From 1844 to 1851 he was editor of the *London Medical Gazette* prior to its fusion with the *Medical Times*. In 1845 he was elected F.R.S. and in 1852 he received the honorary degree of M.D. from St. Andrews University. He died in 1880. Thomas Sydenham was born in Dorsetshire in 1624, served in the Parliamentary army as a captain of horse during the Civil War, on its conclusion entered Wadham College, Oxford, in 1647, and was created Bachelor of Medicine in 1648 at a very early stage of his medical studies. He began to practise as a physician in Westminster about 1655, obtained the Licence of the Royal College of Physicians of London in 1663, and took the M.D. degree at Cambridge in 1676. He died in 1689. His biographer (Dr. J. F. Payne) says of him: "His chief contributions to medicine were: first, his observations on the epidemic diseases of successive years, which have been the model of many similar researches; next, that he gave the first description or clear discrimination of certain special diseases, such as chorea, hysteria, and several others; finally, in practical medicine, he introduced the cooling method of treating the small-pox, which was new at all events in English practice, and he helped to bring in the use of bark in agues. By these discoveries and by the method of studying diseases which he introduced Sydenham is admitted to have made an epoch in medical science."

An Atlas of Bacteriology. By CHARLES SLATER, M.A., M.B. Cantab., M.R.C.S. Eng., F.C.S., Lecturer on Bacteriology, St. George's Hospital Medical School, and EDMUND J. SPITTA, L.R.C.P. Lond., M.R.C.S. Eng., F.R.A.S., formerly Demonstrator of Anatomy, St. George's Hospital Medical School. London: The Scientific Press, Limited. 1898. Price 7*s.* 6*d.* net.

WITH each succeeding year as surgery and preventive medicine progress the fundamental facts upon which they depend are brought more prominently forward, and it is owing to the importance of bacteriology in connexion with these sciences that this branch of pathology is being more and more recognised as a subject with which all medical students ought to be familiar. It is nevertheless much to be regretted that up to the present sufficient time has not been devoted to instruction in the practical part of the subject, for it is only by conscientious and painstaking practical work that a really useful knowledge of asepsis can be gained.

It is no doubt difficult to find leisure for a comparatively new study in the already over-filled days of the medical student, and it is only by omitting some portion of the accepted curriculum that a place can be found for practical bacteriology. But few thoughtful people will be inclined to dispute the statement that its study is of more real value than some of the subjects now regarded as essential.

It is with pleasure that we note a growing tendency on the part of teachers and publishers to provide earnest students with the means of [illegible] the inadequate teaching usually offered. Already several foreign books of merit have appeared, one or two of which are written especially for beginners, and there has recently been published in this country a book by Dr. Slater and Mr. Spitta of St. George's Hospital which ought to appeal to everyone desirous of becoming familiar with the appearances presented by the various bacteria usually met with and as they occur in ordinary preparations in the laboratory.

The book to which we refer is called an Atlas of Bacteriology and this exactly describes it. The volume consists of some hundred photo-micrographs taken directly from preparations made in the ordinary way in the laboratory of St. George's Hospital and it illustrates exceedingly well the more important organisms with which a student ought to be familiar. And to one point in particular we wish to draw attention. The preparations chosen although good of their kind are not of that "show" character so often noticed in published works. Not infrequently, indeed, it would appear that the desire to instruct the reader has been lost sight of in the endeavour to show what excellent work may be done. It is not so, however, in the present instance. The illustrations are from good average preparations and as such are more useful to the student than first-rate picked and special preparations could ever be. For the student has to get an idea of what an average preparation looks like, and if he is only acquainted with extraordinarily good examples he will often find himself at fault both in making original observation and also in the examination room.

Coming more particularly to the details of the book under review we consider the authors have been well advised in providing a short photographic introduction which, whilst being so short as not materially to encroach upon the other portions of the book, is yet sufficiently detailed to indicate to anyone acquainted with the subject the conditions under which the negatives were produced. As is almost inevitable where every operator has his own methods of attaining similar results there are several points upon which we are at issue with the authors, and especially is this the case with regard to focusing, which we consider can best be accomplished by an examination of the aërial image with a simple lens, without the interposition of any ground-glass screen. The employment of the condenser is another subject upon which we might be inclined to question the authors' statements, but on this point so much difference of opinion prevails and the whole matter is so ill understood by the majority of workers that it would be useless to enlarge upon it here; and, indeed, we do not wish to cavil at instructions which would enable an operator to produce such excellent photographs as are here set forth.

A bacteriological introduction follows the photographic portion and this will prove very useful. It is short—occupying only 14 pages of large print—and admirably clear and explicit, each point as it arises being illustrated by capital photographs.

Next is taken up the life-history of the bacillus anthracis, and that this important organism is adequately treated will be realised when it is mentioned that no less than 10 photographs of its various phases are given. Thus the student is introduced at once to the best-known example of the great group of bacilli and is provided with a typical description to which he can always refer.

Next follow 10 illustrations of the bacillus tuberculosis and afterwards most of the more important organisms are adequately illustrated and described.

Of course, the book does not aim at providing an exhaustive description of the various organisms, but sufficient is given to link the illustrations together and to set forth the more salient points. The paper and print, as is usual with books issued by the Scientific Press, are excellent, and the same may be said of the reproductions of the photographs. On the other hand, the binding is atrocious and much of the usefulness of the book as a laboratory manual is sacrificed on that account. So badly is the volume put together, indeed, that it utterly refuses to remain open at a particular page and any attempt to force it to do so only results in destruction to the book and ruin to the student's temper. This is a subject upon which we have been obliged to speak on former occasions and we notice with regret that the evil is on the increase. The sooner publishers will recognise that it is to their interest to study the convenience of their customers the better it will be for everybody concerned.

The Surgical Complications and Sequels of Typhoid Fever. By W. W. Keen, M.D., LL.D. With five Plates and nine Figures in the text. London: Rebman Publishing Company. 1898. Pp. 386. Price 17s.

This work is based on an analysis of 1700 cases of typhoid fever and practically includes every case published during the 50 years preceding 1896. In this statistical labour the author has been greatly assisted by Dr. T. S. Westcott. In 1876 Dr. Keen gave the Toner lecture at Washington on the Surgical Complications and Sequels of the Continued Fevers; this article is reprinted as an appendix at the end of the present volume, and it will be seen that in it for the first time an elaborate and complete study was presented of the surgical results of enteric fever. The present work is an expansion of this part of the original Toner lecture and is a veritable encyclopædia on the subject. As already hinted this volume does not profess to include all the literature since 1895 and though it covers some of the ground up to January, 1898, it is not absolutely up to date. After a pathological chapter dealing with the bacteriology of typhoid fever and containing numerous references to typhoid infection of different organs without typical intestinal lesions, the author proceeds to a minute consideration of typhoid gangrene, a subject which he had previously taken for his Shattuck lecture in 1896. The sections on the articular and osseous manifestations of typhoid fever contain many interesting deductions; besides typhoidal arthritis properly so-called rheumatic and septic forms may occur in connexion with the disease. In 84 cases of typhoid arthritis dislocation occurred in more than half and nearly always in the hip. With the exception of those of the larynx which are very fully described, the most frequent typhoid sequelæ are met with in the osseous system and of these 237 examples are collected, periostitis (110) and necrosis (85) making up the bulk of the lesions. The reader naturally turns to the valuable and practical section on the operative treatment of intestinal perforation; it there appears that in 83 collected cases where operative measures were adopted 16 recovered, or 19·36 per cent., that the second 12 hours after perforation is the most favourable time for operation, and that after 24 hours there is practically no hope of recovery. An interesting chapter is devoted to the complications of the liver and gall-bladder and Professor Schweinitz has contributed a special article on the ocular complications. In conclusion, we may say that this work must long remain a standard source of reference on the complications and sequelæ of typhoid fever and cannot fail to be of the greatest value not only to surgeons but also to physicians.

LIBRARY TABLE.

The Care of Public Health and the New Fever Hospital in Edinburgh. By James Pollard, C.A., F.S.S. Second edition. Edinburgh: T. and A. Constable. 1898. Pp. 44.—The first record of municipal provision being made by the city of Edinburgh for the protection of the people from disease was in 1497. In that year an epidemic of grandgore or "French pox" broke out and seems to have proved a dreadful scourge; the victims as soon as they were attacked were deported to the adjacent island of Inchkeith where they died in large numbers. In the year of the Scottish defeat at Flodden (1513) there was an outbreak of plague and it is recorded that the town council caused wooden houses to be erected to which the patients were carried. Many things have happened since that time. In 1885 the town council came into possession of the old buildings of the Royal Infirmary and made use of them for the treatment of infectious disease, but the accommodation having been found insufficient a property of 130 acres has recently been acquired outside the city, and of this ground about 40 acres have been set apart for an hospital of 600 beds distributed as follows: scarlet fever, 320 (in seven pavilions); typhoid fever, 80 (in two pavilions); measles, 80 (in two pavilions); typhus, 10; diphtheria, 30; chicken-pox, 20; whooping cough, 20; erysipelas, 30; and probationary, 10. The present description of the new buildings is very complete, and is illustrated by 18 large plates of bird's-eye views, plans, and elevations. Plans of individual wards are drawn on a scale of 25 feet to one inch, which of course shows a great deal of detail.

The Student's Medical Dictionary. By GEORGE M. GOULD, M.D., A.M. Tenth edition. London: H. K. Lewis. 1896. 8vo, pp 701. Price 14*s.*—When a book reaches its tenth edition it is a proof that the work in question is not only a good one but is appreciated as such, two factors which do not by any means always go together. The present book is designed especially for students, and although it will, of course, not take the place of Dr. Gould's monumental work "The Illustrated Medical Dictionary" it will be found to contain everything that a student can want for his average work. A book of this kind is practically an essential for the modern worker since the area of professional literature is constantly being enlarged by new words and phrases. Too much cannot be said in praise of "The Illustrated Medical Dictionary" and we may almost say the same for the Student's Medical Dictionary, except of course that it covers a smaller area of research.

Ambulance Lectures: First Aid to the Injured. By SAM. OSBORN, F.R.C.S. Eng. Fourth edition. London: H. K. Lewis. 1899. Pp. 150. Price 2*s.*—This useful little book has been translated into eight languages, namely, Chinese, French, German, Greek, Italian, Japanese, Spanish, and Hindostani. It consists of six lectures delivered to classes organised under the control of the Order of St. John of Jerusalem and is fully illustrated. The lectures, as beseems discourses delivered to a lay audience, are couched in very simple and practical terms and their scope may be indicated by the author's own words: "Remember that these lectures are not given to make you amateur surgeons, nor to enable you to act independently of professional help, but merely to assist in saving life and relieving pain until that help can be procured." The book is admirably adapted for this purpose and should be of the greatest possible use not only to policemen, railway-men, and the like, but also to travellers.

Dod's Parliamentary Companion, 1899. London: Whittaker and Co. Price 4*s* 6*d*. This useful little book maintains the pitch of excellence to which we are accustomed in former issues. It is well up to date, as may be seen from the fact that the death of the Duke of Northumberland, which occurred on Jan. 2nd, is duly noted. The members of the medical profession in the Houses of Parliament are nine in number—one in the House of Lords, Lord Lister, and eight in the House of Commons, namely, Mr. Ambrose, Sir Charles Cameron, Dr. Farquharson, Sir Walter Foster, Dr. MacDonnell, Sir William Priestley, Dr. Tanner, and Sir Robert Finlay, who although he graduated M.D. left the practice of Medicine for that of the Law.

Whitaker's Titled Persons. London: J. Whitaker and Co. 1899. Price 2*s.* 6*d.*—We have received the third issue of this good little book of reference which has undergone considerable enlargement since its original issue. All titled people are not important and all important people do not (for this reason or that) possess titles, but as a general rule it is a prominent citizen who has titular distinction. Persons with titles are consequently much quoted for their opinions, much employed as figureheads, and are not unknown upon prospectuses, so that it is often necessary for the public to know exactly who they are. In "Titled Persons" we find set down in alphabetical order the name, style, and dignities of all British subjects who have gained or inherited titular distinction. A neat arrangement enables us to sort the cadets of the great families so that we are able to trace back any particular Russell, Campbell, or Stewart to his or her parent stock. A very handy little book.

Sell's Dictionary of the World's Press and Annual of Useful Commercial Knowledge. Vol. I.: Newspaper Section. Pp. 944. Price 4*s.* Vol. II.: Commercial Section. Pp. 692. Price 4*s.* London: Henry Sell. 1899.—Sell's Dictionary of the World's Press makes its nineteenth annual appearance and for the first time in two volumes. Those who remember the modest serviceable little book upon which this great and comprehensive dictionary has been founded may well regard it as an object lesson in evolution. The particular departure of this year's issue is the summarising, primarily for the use of advertisers, of all information likely to be useful with regard to matters of commerce, of navigation, of life insurance, &c. Full particulars of all newspapers published in the United Kingdom are given in vol. i. and for the convenience of those who may require a list of the world's press without referring to that volume a great variety of information relative to home and foreign newspapers is included in vol. ii. No large office or business house can dispense with Sell's Dictionary.

JOURNALS.

Archives Générales de Médecine. Paris. January, 1899.—Four original papers appear in this number. The first is by the late M. V. Hanot on La Cirrhose de Budd or cirrhosis of gastro-intestinal origin by auto-intoxication. The author thinks that this condition is far from being exceptional. The second article is by Dr. A. Brault on the Production of Glycogen in the Tissues which surround Tumours. Well-executed coloured illustrations accompany the text. Dr. M. Kippel writes on the Nervous Symptoms of Cancer. He divides his subject into two main divisions, the symptoms produced by the pressure of the tumour and those dependent on the cachexia. Amongst other clinical phenomena described are the neuro-muscular reaction and debility (lesions of the muscles, the nerves, and the marrow), tachycardia, delirium, &c. This contribution contains much interesting and valuable information. The fourth article, by Dr. Glatenay, is on Acute Osteomyelitis of the Sternum.

The Canadian Journal of Medicine and Surgery. Toronto. January, 1899.—The original contributions in this number include a paper on "Club-Hand" by Dr. B. E. McKenzie. Several cases are detailed, the descriptions being accompanied by some good illustrations. Dr. A. B. Eadie writes on Antitoxin in the Treatment of Diphtheria. He considers that the introduction of antitoxin has robbed this disease of most of its terrors and that if all the patients could be seen early the mortality would certainly sink to a very low point. Dr. A. G. Sherbrooke sends a contribution entitled "Diphtheria with Special Reference to the Laryngeal Cases requiring a Choice between Tracheotomy and Intubation." He considers that both methods have their advantages and disadvantages, but when the operation is possible he prefers intubation. Another interesting communication is by Dr. E. Laberge on Infection and Serotherapy. This paper was read at the Canadian Medical Association, held at Quebec in 1898. Dr. Louis Fischer writes on Therapeutic Suggestions for Children, including Pulmonary Gymnastics. A case of Ectopic Gestation is recorded by Dr. H. E. Vaux, of Brockville, whilst a useful paper on Genito-urinary Instruments required by the General Practitioner is written by Dr. F. C. Valentine, Professor of Genito-urinary Diseases in the New York School of Medicine.

# Analytical Records
FROM
THE LANCET LABORATORY.

IVORY DUST.

(T. PADMORE AND SONS, 118, EDMUND-STREET, BIRMINGHAM.)

IVORY dust is composed chiefly of phosphate of lime and cartilaginous tissue. This specimen gave in our hands the following results on analysis: moisture, 13·31 per cent.; cartilaginous tissue, 28·90 per cent.; mineral matter, 56·00 per cent.; and resinous matter, 1·79 per cent. It yields an excellent white jelly on prolonged boiling with water which is regarded as possessing a high nutritive value. Ivory jelly has been considered from remote time to be a popular restorative; but in view of the above analysis it is doubtful whether it possesses any special nutritive value. It is of course highly nitrogenous, containing an osseous substance analogous to ossein in bone and a very large proportion of bone-producing salt. We are aware that some practitioners, bearing in mind its composition, have prescribed ivory jelly as a food in certain cases and we should be glad to learn whether any distinct physiological or dietetic benefit has resulted.

"SYLVESTER'S" BEEF AND MALT BISCUITS.

(T. W. HOLMES AND CO., 88, WEST-STREET, GATESHEAD-ON-TYNE.)

These biscuits are pleasantly crisp and of good flavour. They evidently contain more malt extract than beef, since the total amount of nitrogenous principles is decidedly lower than might be expected; indeed, they contain a smaller proportion of nitrogenous substances than wheat flour itself. Of course, the addition of beef would contribute considerably to the nitrogenous contents of the biscuits. The mineral matter contained a high proportion of potassium phosphate due to the addition of malt extract. The analysis was as follows: moisture, 10·60 per cent.; nitrogenous matters, 10·26 per cent.; mineral matter, 2·75 per cent.; carbohydrates, with a small quantity of fat, 76·39 per cent. The carbohydrates were largely in the soluble condition owing to the presence of malt sugar. The biscuits would be more satisfactory from the nutritive point of view if a higher proportion of beef substances were added. As it is the analysis indicates very little increased nitrogenous value.

DIGESTIVE TEA.

(JOHN DAWSON, 67, SALISBURY-ROAD, KILBURN.)

We do not believe in "digestive tea." Several processes have been suggested for the treatment of tea, the object of which has been either to remove or neutralise the tannin, but this has seldom been done with success, the delicacy of the flavour and aroma of tea generally suffering. In the present instance the treatment appears to have been with hops. Doubtless to some extent the tannin is rendered insoluble by this means. The infusion has a soft, modified flavour and is quite free from harshness of character even after standing for some time in contact with the treated leaf. The important stimulating alkaloid caffeine is not affected by the process as we extracted from the tea a normal quantity. Possibly this tea would suit some persons who find ordinary tea disturbing to the digestive functions.

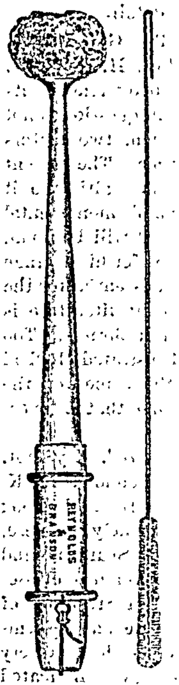
ROYAL COFFEE.

(PAYTON AND CO., TOWER-HILL WAREHOUSE, E.C.)

No admixture of any kind could be detected in the specimen submitted to us. It yielded an infusion of excellent character possessing a full and agreeable flavour characteristic of the aromatic constituents of genuine and well-roasted coffee. These results might be expected considering the somewhat high price of the coffee which is 2*s.* per pound. It is evidently roasted with care, due regard being given to preserving the aromatic and essential constituents of the berry.

New Inventions.

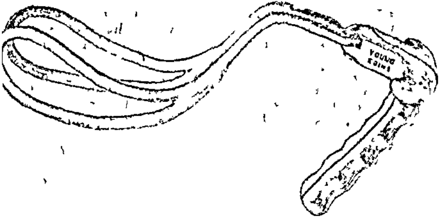
A NEW SPONGE-HOLDER.



AT the suggestion of Mr. H. Bendelack Hewetson, ophthalmic and aural surgeon to the Leeds General Infirmary, Messrs. Reynolds and Branson, of Leeds have made an improved sponge-holder for use in operations on the naso-pharynx where there is a special liability to free hæmorrhage and a consequent necessity for firm and rapid sponging. The stem of the sponge-holder is hollow, and through it is passed a piece of whipcord tied to a small sponge. The two ends of the cord are brought out at the handle, as shown in the illustration, and are tied to a sliding ring, which slips over the graduated handle until it becomes fixed and thereby retains the sponge securely in the slightly trumpet-shaped orifice of the holder, beyond which it projects all round. To enable the instrument to be cleaned and sterilised it is preferably made of celluloid, and is accompanied by a small brush attached to a twisted wire, with a hook at the opposite end for replacing the cord after cleansing. The holder can thus be kept perfectly clean, and it is so simple in its construction that it is not likely to get out of order. The price is 7*s.* 6*d.* in celluloid and 3*s.* 6*d.* in vulcanite. Mr. Hewetson has made various trials with wire, catgut, &c., for fastening the sponge in place of whipcord, but he is inclined to think that whipcord is the best.

A NEW AXIS-TRACTION FORCEPS.

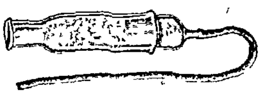
THE accompanying figure shows an axis-traction midwifery forceps suitable for both high and low applications which has proved satisfactory and reliable during a two-years' trial in all classes of cases. The fenestrated portion of the blades and the upper halves of the shanks follow the axis of the parturient canal. The lower halves of the shanks carry the lock and projecting lugs back towards the line of traction of the blades and keep the lock, even in high applications, outside of, and free from, the soft parts. The projecting lugs give the points and direction of traction for the fingers of the right hand. The handles, set at an acute angle to the lock and lugs, shorten the forceps, lie along the perineum, and afford a cross grip for the left hand. They also allow the necessary sweep towards the abdomen of the patient to be made without material loss of power or change of position and enable the right hand to keep up traction, thus freeing the left hand to deal with the head and perineum. In the intervals of traction the handles can be released and the lock loosened with relief of pressure on the cranium and without fear of displacement. The subsequent relocking is simple and easy in all positions. Introduction is greatly facilitated as each half of the forceps is evenly balanced when held in position between the thumb and fingers at the lugs, while the handle projects upwards and backwards. When viewed from before backwards the fenestrated portions of the blades are shorter and the cranial curves greater than the illustration would indicate. I have much pleasure in acknowledging the great care and attention bestowed in the fashioning of the instrument by Messrs. Archibald Young and Son, Edinburgh.



Kilmarnock, N.B. WILLIAM MCALISTER, M.B. Glasg.

ASEPTIC VACCINE EJECTOR.

WE have received from the Association for the Supply of Pure Vaccine Lymph, 12, Pall Mall East, S.W., a convenient appliance to be interposed between a tube of lymph and the lips of the operator who is about to make use of it. The principal feature of the ejector is a plug of cotton-wool contained in a two-part glass tube about two and three-quarter inches long into one end of which the operator blows and the breath, filtered by the cotton-wool, escapes by a slender glass nozzle connected with a soft indiarubber tube about six inches in length. The tube of lymph having been opened in the usual way one end is inserted in this indiarubber tube, the junction is pinched between the finger and thumb, and the lymph is expelled by blowing into the ejector. The price of the ejector is 1*s.* 1*d.* in a case, free by post.



A PIPETTE FOR USE IN ESTIMATING UREA.

THIS pipette is a modification of the one belonging to Southall's apparatus for estimating urea, the rubber nipple at the broad end of the original pipette being replaced by a syringe arrangement which, I have found, greatly facilitates the introduction of the urine into the long limb of the bent tube. Air from the upper part of this pipette is never expelled along with the urine, neither does any urine escape into the hypobromite solution before the nozzle of the pipette is really in the long limb of the decomposition tube. The tube or body of the pipette is about seven and a half inches long and of glass, the nozzle being slightly curved. The movement of the piston is limited by collars on its rod, so that when it is pushed in as far as it will go and then drawn fully out it takes up exactly 1 c.c. The estimation of the urea in a sample of urine is performed as follows. Fill the bent tube with solution of hypobromite of soda just short of overflowing, then gently incline the tube to fill the long limb, then hold the tube in the vertical position and pour in an additional quantity of solution to fill the lower part of the bulb of the short limb. Now take up 1 c.c. of urine in the pipette, pass the curved end of the pipette through the short limb and into the open end of the long limb of the bent tube, and gradually expel the urine. Now draw the pipette out, let the bent tube stand for about half an hour, and then read off the volume of nitrogen gas. The nitrogen evolved by the chemical action of the urea on the hypobromite of soda passes up the long limb and displaces the hypobromite solution downwards. The long limb is marked with an English scale representing grains of urea per ounce of urine, and also with a metric scale representing centigrammes and milligrammes of urea per 1 c.c. of urine. The advantages claimed for this pipette are: (1) that it is accurate; (2) that it is easily worked; (3) that it takes little time; and (4) that it does not waste any hypobromite of soda. Messrs. J. Gardner and Son, Forrest-road, Edinburgh, are the makers.

Edinburgh. C. O. MURISON, L.R.C.P., L.R.C.S. Edin.

FIRST REPORT OF THE ROYAL COMMISSIONERS ON THE METROPOLITAN WATER-SUPPLY.

(Continued from p. 252.)

THE Commissioners report that a consideration of the evidence which they have collected as to the amount of water which can be spared by the Chelsea, Grand Junction, Kent, Lambeth, and West Middlesex Companies shows that the mere connexion of their mains with each other and with those of the Southwark and Vauxhall, New River, and East London Companies would not enable them to be of much assistance in case of emergency arising during the next summer. Such combination would only be effective if the Grand Junction, Lambeth, and West Middlesex Companies were to obtain additional statutory powers for the abstraction of water from the Thames and erect works for its treatment and improved arrangements for pumping.

The New River Company have been able to supply a large quantity of water to the East London Company during the late drought. On July 26th the New River Company reduced the amount of water which they took from the Lee at Ware and left it for the disposal of the East London Company. The water flowed down the river channel to Chingford and thence through the East London intake to the storage reservoirs at Walthamstow. The quantity delivered to the East London Company from July 26th to Oct. 31st, 1898, was 569,082,000 gallons. In order to make up the deficiency the New River Company increased their rate of pumping from the wells. The average amount of water supplied daily by the New River Company to the East London Company during the period mentioned was 5,815,000 gallons daily. The Commissioners point out that this method of giving assistance to the East London Company is very simple and effective and as the water is unfiltered no additional tax is laid on the filtering plant of the New River Company. Connexions have been made between the 30 in. main of the Grand Junction Company in Oxford-street, opposite Poland street, and the 24 in. main of the New River Company at the junction of Rosebery-avenue and Gray's Inn-road, and the West Middlesex Company have effected a junction with the new main made to form the first-mentioned connexion. The Grand Junction and West Middlesex Companies are therefore now able to supply to the New River Company 5,000,000 gallons daily. Such a supply could not, however, be afforded in the summer because those companies could not spare it. The Commissioners point out that the large reserve supply possessed by the New River Company and its wells places it in a more advantageous position than that occupied by the companies previously mentioned.

The Southwark and Vauxhall Company has been able to deliver a large quantity of water to the East London Company during the drought. A connexion was made by carrying a 20 in. main through the Tower Subway in continuation of the 20 in. main of the Southwark and Vauxhall Company. On the Middlesex side a new main was connected with the system of the East London Company. The water was supplied from Nunhead reservoir and the pressure was sufficient to enable the Southwark and Vauxhall Company to supply 6,000,000 gallons a day to the East London Company's district. This arrangement has been rendered possible by a supply of water through a 42 in. main from Hampton to Nunhead and the mains possessed by the company still have a carrying capacity considerably in excess of the requirements of their customers. The Southwark and Vauxhall Company before the year 1897 had a statutory right to draw only 24,500,000 gallons daily from the Thames. During that year an Act was passed and confirmed by a further Act in 1898 authorising an additional abstraction of water to the extent of 20,500,000 gallons a day. An additional amount of 2,250,000 gallons is derived from a well. The amount required for the customers of the company is at present about 37,000,000 gallons daily, thus leaving a surplus of 13,000,000 gallons, but the company is prohibited by its Act of 1898 from selling water to other companies.

The East London Company require increased storage capacity and are at present obviously in no condition to transfer water to other companies.

The fourth section of the report is devoted to a review of the present position of the East London Company and of the measures necessary to ensure a continuous supply of water for their customers. To this question the Commissioners have devoted special attention and have considered the character and extent of the intercommunication of mains which will be necessary to secure a constant supply for East London in case of a drought similar to that which obtained during the year 1898. It is pointed out that the storage reservoirs possessed by the East London Company at Walthamstow are capable of holding 1,200,000,000 gallons, and of this water the greater quantity can be conveyed by gravitation to the filters at their station at Lee Bridge. Some water in the reservoirs, however, could only be utilised by pumping out the lower part of the reservoirs. The amount of this bottom water is 164,000,000 gallons.

TABLE PREPARED BY THE ROYAL COMMISSIONERS GIVING STATISTICS WITH REGARD TO THE WATER-SUPPLY OF THE EAST LONDON WATERWORKS COMPANY.

—	July.	August.	September.	October.	Grand total.
	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.
Required to meet demand in 1899	1,426,000,000	1,395,000,000	1,320,000,000	1,302,000,000	5,443,000,000
Supplies in 1898 from the company's own resources	1,362,326,000	1,094,610,000	743,550,000	716,472,000	3,916,958,000
Estimated deficiency to be met by contributed supplies and by increase in the company's resources	63,674,000	300,390,000	576,450,000	585,528,000	1,526,042,000
Estimated average daily deficiency to be met as above	2,054,000	9,650,000	19,215,000	18,888,000	12,406,000

On June 20th, 1898, the reservoirs of the company were full. On August 22nd they contained 308,000,000 gallons; the directors of the company then restricted the supply to two periods of three hours each daily, and on Sept. 3rd the supply was further limited to two periods of two hours each. On Nov. 23rd a longer daily supply was given; a constant supply to part of the district was resumed on Dec. 7th and to the whole of the district on Dec. 14th. For the year 1899 the Commissioners assume that the New River, the Grand Junction, the West Middlesex, and the Southwark and Vauxhall Companies will be able to contribute to the East London supply in case of need. From the evidence they have taken the Commissioners have come to the conclusion that the estimated deficiency may be met by contributed supplies and an increase in the companies' own resources. In the report a table compiled by the Commissioners is given showing for the four months, July, August, September, and October, (1) the amount of water which they estimate will be required to meet the demand; (2) the amount of water which the company obtained from their own sources during the corresponding months of the year 1898; (3) the estimated deficiency to be met during those months of the present year; and (4) the estimated average daily deficiency to be met. The table is given above.

The Commissioners report that having regard to the fact that the East London Company had been able to carry forward a considerable store of water from the year 1897 to 1898, and that it is possible that they may have no such store to fall back upon in the June of the present year, and having regard also to the fact that there is an increasing annual demand for water, they recommend that arrangements should be made as soon as possible whereby an auxiliary supply of not less than 20,000,000 gallons daily should be made available for distribution in their district. If this amount of water can be made available the system of constant-supply by the company would in their opinion be practically secured for some years to come. The Commissioners point out that these measures should not relieve the company from the obligation of improving as rapidly as possible their own sources of supply so that they may make themselves independent of extraneous assistance. In concluding their report on this branch of the subject the Commissioners point out that if the existing connexion with the Southwark and Vauxhall Company's mains had been made early in the year 1898 and if the fullest available supply had been taken from the New River and from the Southwark and Vauxhall Companies from June 20th of last year a constant supply might have been maintained in the East London Company's district during the whole of last year.

The fifth section of the report is devoted to an account of the views of directors and of the engineers regarding the expediency of adopting a general scheme of intercommunication. Briefly, it is pointed out that the associated companies by their counsel intimated that intercommunication was practicable and convenient, but the evidence given by the engineers of the companies showed that several of them thought that in the case of the companies which they represented no such extraneous help would be likely to be wanted. The evidence of the engineers has already been reported in THE LANCET. The report states that Sir Alexander Binnie, on behalf of the London County Council, gave it as his opinion that it was inexpedient to incur the large expenditure required by Scheme No. 2, because if a new supply were introduced from Wales different arrangements for intercommunication would be suitable and necessary. The conclusion to which the Commissioners themselves have come has been already given. It is to the effect that intercommunication on well-considered lines is necessary from the consumers' point of view.

(To be continued.)

DEATH FROM ANTHRAX.—An inquest was held at the Bristol General Hospital on Jan. 19th upon the body of a haulier, aged 36 years, whose blood contained the anthrax bacillus. The deceased had a sore on his neck which he had probably rubbed against a sack. A verdict of "Death from anthrax poisoning" was returned.

PRIZES OF THE PARIS ACADEMY OF SCIENCES.—The *Revue Scientifique* of Jan. 21st publishes a long list of prizes proposed by the Paris Academy of Sciences for the years 1899, 1900, 1901, and 1903. The prizes in medicine, surgery, and allied subjects are as follows:—Prix Montyon, of 7500 fr. (medicine and surgery). Prix Montyon, of 750 fr. (experimental physiology). Prix Montyon, of 3000 fr. (hygienic improvements in dangerous trades). Prix Barbier, of 2000 fr. (discovery in medical, surgical, or pharmaceutical science, or in medical botany). Prix Bréant, of 100,000 fr. (cure or prevention of cholera). Prix Godard, of 1000 fr. (anatomy, physiology, and pathology of the genito-urinary organs). Prix Serres, of 7500 fr. (application of embryology to physiology and medicine). Prix Chaussier, of 10,000 fr. (application of embryology to physiology and medicine). Prix Bellion, of 1400 fr. (works or discoveries conducive to health or to the improvement of the human race). Prix Mège, of 10,000 fr. (completion of an essay on the progress of medicine). Prix Lallemand, of 1800 fr. (works relative to the nervous system). Prix du Baron Larrey, of 1000 fr. (naval or military medicine, surgery, or hygiene). Prix Pourat, of 1400 fr. (specific characters of the contraction of different muscles). Prix Philippeaux, of 890 fr. (experimental physiology). Prix La Caze, of 10,000 fr. (works or memoirs contributing to the progress of physiology.)

THE LANCET.

LONDON: SATURDAY, FEBRUARY 4, 1899.

THE question as to whether it is or is not desirable that phthisis should be made a notifiable disease has recently been the subject of discussion before different societies; and it is once more dealt with in the address by Dr. ARTHUR NEWSHOLME on the Prevention of Phthisis of which we reproduce a lengthy abstract. Opinion in this matter may be said to be divided in the medical profession, although for the moment it would seem, as far as can be judged, that only a minority favour the proposal. So far as the public are concerned there is but little evidence that they take any particular interest in the question, unless resolutions advocating the notification of phthisis passed by a few sanitary authorities having medical officers of health in favour of the system may be regarded as representative of public opinion in those localities. And, lastly, there is the official attitude towards the subject as represented by the refusal of the Local Government Board to add phthisis to the diseases made notifiable under the Infectious Diseases (Notification) Act, 1889.

As fairly typical of the two sides of the question we may take Dr. NEWSHOLME'S address as setting out the reasons for and the third of Sir RICHARD THORNE'S recent Harben Lectures those against the desirability of making phthisis notifiable in this country. Briefly put, the arguments against the compulsory notification of phthisis have been: (1) that the Act under which it is proposed to effect the notification of infectious diseases was never intended to apply to a disease of long duration such as phthisis, but was limited to diseases having a brief infective stage during which it is no hardship to control the movements and liberty of the individual; (2) that to attempt any such control in the case of phthisis would be likely to interfere with the prospects of phthisical persons who must necessarily during many years of their malady be able to gain a livelihood in order to maintain themselves and often their families also; and (3) that the risk of losing a remunerative occupation and the risk of coming under the control of a sanitary officer would debar many persons suffering from incipient phthisis from seeking medical advice and in this way the object of the notification would be largely frustrated.

The answer to these objections is mainly that under a proper system of notification they would not be likely to arise. Thus, it is said that the notification of phthisis could be made confidential; that the visits to the phthisical person would in most cases consist merely of notices left at the private address of the patient; and, again, that even such limited action as is involved in precautionary measures of this sort should be left almost entirely to the medical attendant and his patient, provided the medical officer of health were informed of each change of address in order to secure the newly coming tenant from the risk of infection left behind by the former occupant. The New York system is again referred to, especially by Dr. ARTHUR RANSOME, an unofficial advocate of the system, who explains that though the data concerning cases of phthisis in private houses and under the care of private physicians in that city are recorded the patients are not in any way interfered with and that even circulars of information are not sent to them except by special request of the attending physician.

Action on these several lines would, of course, involve new legislation in this country, and so far as we are aware this has never before been definitely asked for or even indicated. The demand has been to include phthisis in an Act which has involved and would permit of action of an infinitely more stringent character, and we are more than doubtful whether even the medical profession are prepared to endorse the demand, as it has hitherto been formulated, on a sort of understanding that the medical officer of health is to be the sole judge whether in one and another case of phthisis he shall exercise the powers conferred upon him and upon sanitary authorities as regards infectious disease or not. These powers are very wide indeed, and they were not framed on the assumption that they might be applied to a chronic disease often lasting over a long series of years. In this country the medical officer of health will often, if not generally, be competing for medical practice with the notifiers, and even in those cases of infectious diseases where the power of intervention is limited to a few weeks only instead of being spread over a series of years we cannot say that the medical officer of health has been uniformly judicious. Indeed, the complaints which we have received as to the very objectionable habit on the part of certain medical officers of health of revising the diagnosis of disease made by fellow practitioners and then recommending the non-payment of the notification fees have by no means ceased notwithstanding strong official condemnation of the practice.

Dr. NEWSHOLME, however, implies that personal visits should in all cases be paid by the medical officer of health to ensure the execution of the necessary hygienic precautions. On the other hand, Dr. RANSOME explains that in New York medical inspectors are specially detailed for this work and it is they who give verbal directions and leave circulars of advice. Some such arrangement would, indeed, be absolutely necessary in this country unless a vast number of phthisical patients were left altogether without inspection; indeed, it is quite certain that in populous and widely spread districts, such as are combined for the purposes of the appointment of medical officers of health in many parts of the United Kingdom, the New York system could not be applied without a complete change in our local sanitary administration. It must also be remembered that New York is a single city, not a country, and that we do not yet know the results of the system as regards this limited community where the practice only came into operation so recently as January, 1897.

But, assuming that under some new Act the powers of medical officers of health and of sanitary inspectors are limited to those which alone are justifiable on the basis of the New York experiment, we are by no means clear that in nearly every instance, as suggested by Dr. NEWSHOLME, the necessary inquiries and action could be carried out at the patients' homes instead of at their places of busineto avoid the risk of the loss of employment. Thousands of young adults live in houses of business and a large proportion of the remainder of those engaged in business could only be found in their homes late in the evening. This fact would enormously increase the difficulties of visitations and it is practically incredible that under present circumstances the action taken on notification could in by far the majority of districts have even the pretence of being private and confidential. And if it were not we feel certain that patients once exposed to the results of notification would in a large number of instances studiously avoid seeking medical counsel in the more curable stages of their disease and that the primary purposes of the proposed action would to that extent be frustrated.

Dr. NEWSHOLME urges that there might at least be local option. Local option is generally understood to have relation not so much to the wishes of a dozen town councillors acting under the influence of an able official as to the actual wishes of the majority of the people. If therefore it were distinctly understood before a local election that certain members of a municipality intended to vote for a local Act granting the compulsory notification of phthisis and if under these circumstances a majority favourable to such an Act were returned we could see some justification for the demand in this form. The parallel of other local Acts for the notification of the acute specific fevers is urged in favour of similar local legislation as to phthisis without the conditions which we have named. But the cases are not parallel. The former Acts gave expression to a widespread medical opinion and to a practical unanimity on the part of the public health services, whereas in the case of phthisis this is most certainly not the case. Dr. NEWSHOLME himself records the resolution of the Society of Medical Officers of Health so recently as 1893 to the effect that it was "premature to recommend the compulsory notification of a chronic disease like phthisis." We know of no parallel to this resolution as regards the diseases which now are notifiable, and we feel convinced that with a view of educating the public the first step should be to pass an Act enabling sanitary authorities to pay for the voluntary notification of phthisis. We should then soon learn how far and amongst what classes such notification could be carried on without causing resentment and opposition on the part of the public.

In the meantime no country has performed such splendid work as has been achieved in England and Wales in the reduction of phthisis, and there is still room for much more action in the same direction. To this end it is essentially the private practitioner whose aid it is in giving advice as to the prevention of the disease that must be relied on. Pending some evidence as to much greater unanimity of medical and public opinion in the matter than at present exists we cannot agree with Dr. NEWSHOLME in his free condemnation of the Local Government Board. They can hardly be expected to act on the views of a small minority, however able its individual members may be.

THE discussion upon the Choice of an Anæsthetic recently held at the Society of Anæsthetists, if not wholly satisfying, is at least of considerable interest. Many speakers it is true devoted their energies to the well-worn theme of ether against chloroform but the trend of the discussion was rather towards establishing the position that in the various operations of surgery and in certain well-recognised conditions of patients it is a matter of paramount importance that the anæsthetic should be adapted to the requirements of the individual case. There is no doubt that this fact being once admitted matters of importance become ventilated as side issues but side issues of the first consequence. The position of the practitioner who undertakes the administration of an anæsthetic does not so much now as formerly resemble that of a junior assistant to the surgeon. If we go back a few years when anæsthesia became an accomplished fact we find that almost simultaneously with its inception the anæsthetist sprang into existence. In those days it is true he was an "etherist" at first and subsequently a "chloroformist." That SNOW in his elaborate work and through the brilliance of his experimental researches laid the foundation of the present school of anæsthetists there can be no doubt. SNOW did not *give* chloroform in the sense that he was conveyed by the surgeon to a particular nursing home and told to chloroform his patient. His function, as he recognised it, was to render the patient unconscious with the minimum of risk and with the maximum of comfort to the surgeon. That, we take it, is the ideal which the Society of Anæsthetists placed before itself when it undertook the discussion to which we refer. There can be no doubt that when the anæsthetist recognises the full responsibility under which he labours and is prepared by his experience to do justice to the possibilities of the case he becomes a far more useful personage than the mere rule-of-thumb administrator of chloroform or of ether, as the case may be. Whether such an accomplished addendum to the surgical *entourage* is required is for the public to determine as far as circumstances allow them a voice. We daily find patients more alive both to the discomforts and perils of inexpert anæsthetisation and more keenly sensible to their own requirements and the possibility of satisfying them.

To the surgeon the advantage of having the services of an anæsthetist who is really capable of comprehending the case is not perhaps always recognised but it is undoubtedly great. The anæsthetist if he be a man of experience sees not the practice of one but of many surgeons and so his observation of operations and of the way in which the patients behave under the anæsthetic during their progress is extensive. If, then, in difficult cases the skilled anæsthetist and the surgeon were to discuss the difficult points beforehand there is little doubt that the choice of the anæsthetic would be made with far greater precision and satisfaction to all persons concerned than when it is determined upon hurriedly at the time of the operation either by the anæsthetist or by the surgeon. More especially is this so if the anæsthetist has an opportunity of examining the patient at some period antecedent to the time of operation. As was pointed out at the meeting there are "etherists" who repudiate the use of chloroform and there are "chloroformists" who can see no advantages in the selection of ether. Mere predilection or the surviving superstitions of early professional training should not be allowed to replace the accumulated experience of years of observation and patient labour. All reasoning men whose outlook is sufficiently extended must admit that no universal anæsthetic can be adapted to the hundred and one exigencies of disease in the patient or the multifarious requirements of modern surgery To doggedly insist upon such a theorem is to predetermine failure if not fatality When many speakers insist upon their own views it is hardly to be expected that any unanimity can exist in the conclusion arrived at *How far the danger of chloroform is so much greater* than that of ether cannot at present be accurately gauged In the first place, chloroform is the most extensively employed anæsthetic and is certainly given by persons devoid of special knowledge and often with the most limited experience Secondly, it is alleged by many surgeons both here and abroad that the after effects from ether are more severe and more prolonged than those resulting from chloroform It was, however a noticeable fact in the discussion that with the exception of Sir FELIX SEMON no speaker at the Society of Anæsthetists cited definite cases in support of this contention Roughly speaking it would appear that the anæsthetists as a body favour the employment of ether usually *preceded* by nitrous oxide gas while surgeons prefer chloroform, this preference for chloroform being in many cases due to the fact that the respiration is slowed and rendered more shallow and the blood pressure lowered under that anæsthetic so that movements of breathing and hæmorrhage are both diminished Mr WARRINGTON HAWARD very aptly remarked that not only must the choice of the anæsthetic be considered from the point of view of the surgeon and the point of view of the anæsthetist but also from that of the patient and according to him the patient's first consideration is his individual safety Even here the *matter* is not devoid of difficulty because the personal safety of the patient involves not only his being brought safely through the immediate perils of the operation but also *through* those which occur from such after complications as severe vomiting irritation of the mucous membrane of the respiratory tract and so on

There was unanimity among the speakers that cocaine, at least in the case of children was a drug too uncertain and too dangerous to admit of general application Naturally the subject of local *anæsthesia* by RECLUS'S and SCHLEICH'S methods was spoken of, but as Mr BARKER pointed out our experience at present is slight for any definite opinion to be advanced, although continental opinion is favourable to its use in appropriate cases This discussion will prove of value if it draws attention to the possibilities of modern methods of producing anæsthesia and removes from the confines of empiricism and routine the administration of anæsthetics in the more complicated operations of modern surgery

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THE near approach of the meeting of Parliament leads us to ask what will be the bearing of *this session* on the interests of the medical profession and on the furtherance of those ends for the pursuit of which the medical profession exists It may seem to some that between a narrow parochialism which would starve every public provision for the health of communities and a broad imperialism which takes the whole world into its purview, the quiet claims which the science of medicine and its practitioners have on the Legislature have little chance of receiving any adequate consideration, especially in a Parliament so constituted as to give undue voice and weight to the noisiest and least intelligent of the people There is some truth in *these views and too much justification of them in* recent events. But we must not despair. If the representatives of the great art and science, down to its *youngest general practitioner in the remotest parish of* England Ireland, or Scotland, will but steadily work on in the lines of the latest truth and the ripest experience there *is not* a *Parliamentary* constituency or a *Member of* Parliament that will not sooner or later come to confess that the medical profession has a right to be heard in Parliament whenever it presents well considered and well founded recommendations touching the health of the people or its own claims We have still some days to wait for the Queen's Speech and it would be affectation to pretend that we have been let into any secrets concerning the subjects of that important pronouncement But we shall be safe in assuming that two or three questions affecting the public health will be brought to the attention of Parliament and that others may present themselves in the course of the coming session

The first medical subject which occurs to us as claiming the attention of Parliament is that of vaccination The Government may be confidently trusted to remember that the condition on which Lord LISTER'S support and that of many other supporters was given to the remarkable legislation of last year was that in the coming session a *measure for promoting revaccination* should be introduced We give the Government full credit for reluctance in making the concessions which it did make to the conscientious objector, though we can scarcely believe that its members foresaw the immense surprise which their action has excited abroad the keen dissatisfaction which it has occasioned among their own supporters at home, or the feelings of mingled triumph and disrespect which it has produced among those for whose benefit and appeasement it was intended Be this as it may, the law of the land is presumably that children shall be vaccinated and the expectation of that part of the community which is still capable of reasoning is that the Government will place among the urgent business of the Session a measure for promoting revaccination The present calm will not always continue The law of 1898 has multiplied conscientious objectors beyond all expectation But they soon change their minds At Gloucester multitudes of them flocked to the vaccination stations on the outbreak of small pox, and unless all experience is to go for nothing such epidemics will be multiplied on a larger scale The very least that the Government can do is to fulfil the promise of last year with as little delay as possible and in so doing give the best proof it can that those in power remain unshaken in *their belief* that vaccination and plenty of it is the only security of nations against a plague which is as fatal and as hideous as it ever was *Only so can the Government uphold its* remaining credit on this matter and keep terms with the medical profession and the distinguished peer who had such misgivings in *consenting to the* "tremendous experiment" which is now being tried in England.

Another question deeply affecting the health of London is that of the metropolitan water-supply. The Royal Commission is nearing the end of its work—at least, of that part of its work which consists in taking evidence. There is no lack of material in this shape, but the troubles of the Commission will begin when it has to decide between the very sharply divided opinions of practically two sets of witnesses, the one set believing it possible to get all that is needed from the existing supplies provided a better understanding between the companies can be established for mutual help in seasons of drought and difficulty; the other, representing a majority of the London County Council, believing it impossible to meet the growing demands of London out of the present sources and advocating a scheme for bringing additional supplies from Wales or elsewhere. Bills for promoting these rival schemes are before Parliament. The Report of the Royal Commission will be presented ere long and then Parliament will have to discharge one of the weightiest and most difficult duties which it can have to perform in the sphere of domestic legislation.

We may confidently expect also that early in the session the subject of food adulteration will be brought forward for discussion, and it is to be hoped that the present Sale of Food and Drugs Act will be amended in several important respects. Mr. WALTER LONG has stated that he is to be responsible for the introduction of the new Bill.

Other questions with a medical bearing or affecting the health of the people are likely to arise. The recent trials for the crime of producing abortion have brought to light a state of the law which tends to hinder conviction, and it is probable that the Government itself will see the necessity of proposing a change. The change is the more urgent as there is much reason to believe that the crime is more common than is generally supposed. The new lights on tuberculosis and the ways in which it is originated and spread lead many to think that legislation should be invoked for its notification and for enforcing measures for its prevention. But the language of Lord SALISBURY at the meeting at Marlborough House—of which public opinion seemed to approve—was in favour of relying more on the spread of public intelligence. One measure seems to be loudly and generally called for—the establishment of public abattoirs where the slaughter of animals can be conducted with the greatest attention to hygienic and humane considerations and by which the detection of disease would be most facilitated. We may hope that in the course of the session the Royal Commission on the Licensing Laws will make its report, but it is not at all sure that this will be done soon enough to enable the Government to propose legislation on a question so profoundly affecting public health and morals as well as the pecuniary interests of a large and powerful trade. The Government which has given us the Inebriates Act, 1898, may be looked to for such improvements in the licensing system as will tend to diminish the number of inebriates.

It is scarcely probable that any legislation directly affecting the medical profession or its organisation and discipline will be asked for or attempted this session. The General Medical Council does not meet till May, and it has not yet made up its own mind as to what is needed and what is practicable. There are many reasons why the Council should try to come to some practicable conclusions on these subjects and that without much more delay. The Midwives Bill will again be presented to Parliament with some additional claims to attention, but it remains to be seen whether it can be fully adapted to the views of the General Medical Council as suggested by the Lord President. And even if the General Medical Council be satisfied the profession at large may not be.

Annotations.

"Ne quid nimis."

THE MODERN MIDWIFE.

ON Jan. 27th an inquest was held at Lincoln by the coroner, Mr. Trotter, upon the body of an infant, aged 20 days, who died on Jan. 25th. The child in question was one of twins, was weakly from birth, and was said to have suffered from convulsions, but no medical man was called in because the nurse in attendance said, according to the evidence of the father, that no doctor was necessary, for no one could do more than she, the nurse, was doing. Nurse Southwell, who gave evidence, said that she was a trained nurse of the Maternity Society. She argued that no medical man could do more than she had done, but she had told the mother if she was not satisfied to call one in. She knew from the first that the child would not live and she told the parents that if anything happened during the night she would give them a note to say that the child died from convulsions. The coroner here asked if the witness thought it her duty to say that a case was hopeless without having her opinion backed by a medical man. The witness replied that she had done it in other cases repeatedly, that when she was in training she did the same thing, and had always understood that she was quite at liberty to do so. She then asked the coroner what she should do, for "when we send for a medical man to see an immature child he refuses to come." Dr. McFarland said that the child was very small but not premature in his opinion. Death was due to wasting and he thought that certainly a medical man should have been called in. If parents were told that a child was certain to die they naturally became careless and hopeless. The jury returned a verdict of "Death from natural causes," adding a rider that Nurse Southwell had exceeded her duties and ought to be censured. The coroner accordingly called her into the room and severely reprimanded her. We do not know what the Maternity Society to which this woman referred may be, but we hope that it is not the Lincolnshire Nursing Association; neither do we believe that any responsible training institution would allow their nurses to act as Nurse Southwell suggested that she had been allowed to do and trained to do. The impropriety of her behaviour passes all bounds, but there is unfortunately no way in which she can be punished.

THE METROPOLITAN ASYLUMS BOARD.

AT the fortnightly meeting of the Board on Jan. 28th a slight decrease in the number of cases under treatment—43—was reported. Of the cases 2690 were scarlet fever, 1323 were diphtheria, one was typhus fever, and 248 were enteric fever. There was not one case of small-pox under treatment. A decrease had occurred in the notifications to the Board of 170, the number being 1650, as against 1820 in the previous fortnight. The leaps and bounds with which the work of these hospitals is increasing is well brought out in a discussion on a motion to raise the salary of the excellent clerk to the Board, Mr T Duncombe Mann, to £1250. The hospitals have increased in the eight years of Mr Mann's service from eight to 14 in number; the staff from 1800 to 3700. In the eight years preceding Mr Mann's appointment 35,000 patients were treated, in the succeeding eight years 141,000. This does not show that the infectious diseases of London have increased in amount—though we should like some facts on this head—but that the objection to send them to the hospitals is diminishing and perhaps that the regulations for excluding the unfit are not very strong.

THE PATHOLOGY OF ERYTHROMELALGIA

IN 1872 Dr Weir Mitchell described "red neuralgia" or erythromelalgia. A number of theories have been put forward of the pathology of the disease, which is generally regarded as of nervous origin. Lewin and Benda published a paper in the *Berliner Klinische Wochenschrift*, 1894, in which they collected 41 cases. They concluded that erythromelalgia was not a disease but a manifestation of various cerebral and spinal maladies. In THE LANCET of August 13th, 1898, Dr James Collier published a most important article showing that erythromelalgia occurred in a number of nervous diseases—disseminated sclerosis, tabes, neurasthenia, and myelitis—and that it was not a rare symptom of spinal cord disease. In the *American Journal of Medical Sciences*, January, 1899, Dr Weir Mitchell and Dr Spiller have published the following important case, the only one in which microscopical examination of affected parts has been made and peripheral disease of nerves and arteries found. A man, aged sixty one years, in fair health, began to have limited areas of severe pain in the right foot with tenderness and flushing when the limb hung down. Whilst the fourth and fifth toes were thus affected a small, deep, painful ulcer appeared on the outside of the fourth toe and healed slowly. After three months these toes seemed nearly well and the second and third were furiously attacked. As these improved the great toe was affected. Cold and elevation relieved the pain, heat and depression made it worse, walking was unendurable. The great toe was slightly red but not swollen. The heart was feeble, the arteries were soft, and there was no excess of tension. The circulation in the left leg was good but in the right a pulse could not be felt below the groin. Many remedies were tried in vain. The toe and half the metatarsal bone were amputated. The wound healed slowly with some sloughing. After the operation the patient had pain in the ball of the foot and some reddening of the toes, but he was better. The nerves of the great toe were intensely degenerated and showed scarcely any nerve fibres consisting almost entirely of connective tissue. The media and intima of good sized vessels were greatly thickened, in some places the lumen was nearly obliterated. The bones were enlarged. In a case of erythromelalgia of the lower limbs reported by Auerbach the nerves were normal (but it is not certain that the most peripheral parts were examined), the upper sacral and lower lumbar posterior roots which supplied the affected parts were much degenerated. Auerbach found that a patient recovering from multiple neuritis presented deep redness of the legs and feet after they were hung down for a few seconds. Dr Weir Mitchell held that erythromelalgia may be due to spinal disorder, but more recently he has been inclined to attribute it to neuritis. The preservation of sensation in the great toe in his case is striking, the few scattered undegenerated fibres must have been sufficient for transmission. The writers conclude that in their case the symptoms were due to peripheral neuritis, but inasmuch as such was absent in Auerbach's case it follows that involvement of sensory fibres anywhere between the cord and the periphery, and possibly within the cord, is capable of causing erythromelalgia. But they are unable to say whether the arterio sclerosis or the neuritis in their case was the primary lesion, as it is exceedingly probable that such disease of the vessels would affect the nerves.

THE NEW BRITISH SERVICE BULLET.

PROFESSOR BRUNS of Tubingen, who had previously investigated the effects of the Dum Dum bullet, has been recently experimenting with the new British service rifle bullet. He finds, according to a correspondent's report published in the *Standard*, that the new bullet causes severe wounds at short distances, but cannot penetrate strong screens or four or five persons. It may, he thinks, be very effective in wars with savage tribes, but would probably prove less so in European warfare, in which shots are exchanged at 1000 to 1500 metres and the decisive firing is mostly at 500 metres—that is, at a distance at which the distinctive effect of the new bullet does not take place. At short ranges the bullet is easily altered in form, the greatest change in this respect taking place in the case of its being fired into moist and liquid substances. The penetrative effect is diminished, the lateral increased, and this causes a greater destruction of the object hit in proportion to the greater diameter of the bullet. Shots striking soft parts at 25 to 50 metres have a decidedly more severe effect than with other bullets, though not nearly so destructive as those tipped with lead. At the maximum velocity they burst in the muscles and their effect in the hollow organs which are filled with fluids is almost unexampled. Shots through the bones are also more destructive at the above mentioned distances than those of other bullets and almost as destructive as those that are lead tipped. The bullet is always broken into small fragments. At distances of 200 to 400 metres also the fractures of bone are decidedly worse than with other bullets though the difference is not so great, whereas at 600 metres there is hardly any difference.

VENTILATION AND SANITATION OF THEATRES AND CHURCHES

A DISCUSSION on this subject of much moment to the general public has been recently carried on in some of the medical and lay papers of New York City. The starting point of the remarks was a paper read by Mr William Paul Gerhard, C E, before the meeting of the American Public Health Association held in Ottawa last September. Mr Gerhard selected the Hygiene of Theatres as his topic and avers that with the exception of a few recent metropolitan theatres the arrangements for the comfort and health of theatre goers, of actors, and stage employes are seldom considered, and he arraigns the conduct of places of amusement in the following scathing terms. "It is a well known fact that there are vast numbers of persons who, while they would thoroughly enjoy a good play, are restrained from visiting such places of amusement for the very good reason that they fear the exposure to the stifling, noxious overheated atmosphere of the buildings, and who are sure if they do go to awake the next morning with a severe headache or with a cold or sore-throat contracted through exposure to draughts. The whole question of the sanitation of theatres is then entered into in detail. The *New York Medical Record* of Jan 7th makes Mr Gerhard's paper the text of a leading article and wholly agrees with his views on the matter. This article says. "The hygienic arrangements of theatres and other places of amusement are all the world over disgracefully neglected. The importance of the thorough sanitation of schools and similar institutions is now fully realised and no expense or trouble is grudged in carefully looking after the bodily as well as the mental welfare of the young. ...... It is therefore decidedly curious that the greater portion of the adult members of the community exhibit a complete indifference toward matters hygienic in connexion with theatres and music-halls. One reason for their careless disregard of the laws of health is without doubt owing to the fact that a stay in a place of amusement is necessarily brief and that so long as attention is paid to pleasing the eye and ear it appears to be a question of small moment whether the air is healthy or foul. Nevertheless, there are signs that the general public is becoming more alive to the dangers lurking in theatres and establishments of a like nature and it is probable that in the near future the construction of buildings devoted to the pursuit of pleasure will be conducted with a due regard to the health of their patrons." Our American contemporary in the same article criticises the sanitary methods of churches, and particularly of Roman Catholic houses of worship, pointing out that masses are held in them at frequent intervals at which all sorts and conditions of people are present and that at a church, as at a theatre, it is impossible to provide a sufficient allowance of pure air by means of windows or other openings and recommends as the only effective alternative both for churches and places of amusement the mechanical method by propulsion, giving an allowance of about 1800 cubic feet of pure atmosphere per hour for each individual. In the Sunday edition of the *New York Sun* of Jan. 8th a leading article is published dealing with the remarks of the *New York Medical Record* so far as the sanitation of churches is concerned, which, while allowing that overcrowding may occur in Roman Catholic churches, is somewhat sceptical as to the truth of the application to churches of other denominations. In fact, the *New York Sun* asserts that in New York at least it is rather the other way of too small attendance, bringing forward in support of this contention the statement of one of the most renowned preachers of the city, the Rev. Dr. Rainsford, who only recently made the complaint that nowadays instead of attending church the larger number, not only of young men but of family men, take their bicycles or their golf clubs and go to the country. However, whether this be so or not is beside the point. It appears to have been shown without a doubt that in New York and in the United States generally the theatres, concert-halls, and many of the Roman Catholic churches are both overcrowded and ill-ventilated. We have in THE LANCET on more than one occasion drawn attention to the ineffective hygienic arrangements and overcrowding of London places of worship and it may be said that although some of its theatres are satisfactory in these respects, yet, that many are susceptible of much improvement. We trust nevertheless that no one of them is in such a condition as the theatre in New York alluded to by Mr. Gerhard in his afore-mentioned paper "where each time the curtain rises a strong whiff of sewer air greets the audience." That sanitary reforms alike in theatres, music-halls, and churches would, either in America or Great Britain, be beneficial to the health of their audiences and in the long run, at any rate in the case of places of amusement, satisfactory to the pockets of their proprietors is a truth not to be gainsaid.

SANITATION AT PORTO RICO.

AT Porto Rico, as at Havana and throughout Cuba, the Americans are face to face with sanitary problems fraught with no ordinary complications. At Porto Rico the first difficulty, for instance, is as to how a sanitary authority is to be constituted. General Henry is in command on behalf of the American Government, but he has to establish some form of local self-government. According to the Spanish law every man, however ignorant, would have the right to vote. On the other hand, if the suffrage was restricted to those who could read and write, this would disfranchise 85 per cent. of the population and place local administrative questions in the hands of a privileged minority. General Henry proposes to avoid these two extremes by allowing all who pay taxes and all who can read and write to vote. But, however the authority is constituted, it is certain that the native population is not capable of settling the sanitary problems. The Americans alone possess the necessary experience and knowledge for dealing properly and thoroughly with these matters. At first sight the capital of Porto Rico, San Juan, seems a clean town, for the streets are well paved and swept, but the interior courts and back alleys are filthy. Where the houses have two storeys the first floors, being notoriously more unhealthy, are either let for shops or stores or to poor tenants. The poorer classes are for the most part negroes. The real remedy would be to remove them to the outlying country districts. They crowd the dwellings to a terrible extent. There is no drainage and no proper room for them to wash their clothes. On all sides—in the passages, on the stairs, and in the rooms—damp linen is hung up to dry and pails of foul water in which the clothes have been washed abound. The water used for all purposes is rain-water collected from the roofs and kept in underground cisterns where it is frequently contaminated. There are no public latrines or washhouses in the town. Then the atmosphere is still further poisoned by small portable charcoal stoves which do not communicate with chimneys, but are placed anywhere on the floor and lighted for cooking purposes. On all sides, naked children may be seen playing amid the dirty surroundings. Though the second-floor tenements are healthier they suffer from the foul odours generated on the first-floor. The negro, however, does not object to these conditions and will put up with any inconvenience so as to be able to remain in town. It is quite certain that he will not voluntarily remove to a healthy suburb. Nor will his landlord make the slightest effort to get rid of him. The poorest tenements give the best return on the capital invested, and the owners of such property will energetically resist all attempt at reform. But this obstacle exists everywhere—in Europe as well as in America. There is, however, one favourable circumstance at San Juan—the fall is good and natural drainage could be secured. The Spaniards also have nearly completed an aqueduct to bring pure water from the country. Unfortunately the pipes which they employed will only bear a pressure of 75 lb., whereas for a proper distribution they should be able to resist at least double such a pressure. The water-supply system has therefore to be completed and improved; sewers must be built, and if the first-floor negro tenants are allowed to remain public washhouses must be provided for them where their linen can be washed in a convenient and cleanly manner, and regulations against overcrowding should be strictly enforced by law. Such measures should be welcomed by the inhabitants, but in their present state of ignorance they are more likely to excite opposition than approbation.

THE GENERAL EDUCATION OF THE MEDICAL PRACTITIONER.

A CORRESPONDENT sends us a somewhat discursive communication dealing with a number of subjects, but his remarks upon the position of the general practitioner are sensible. He calls to mind the fact that sundry specialists—notably Professor Edgar—think that the "majority of practitioners know little or nothing of gynæcology ...... and hundreds more (women) lose their lives simply because the diseases which have carried them off are not recognised in time." Not only the gynæcologist has to complain of want of knowledge on the part of the general practitioner but other consultants and even laymen Mr Arthur Chamberlain is reported as saying. "The desire is not to get cheap advice, but for the most part the people I am referring to have been paying a general practitioner for a long time directly or indirectly, through clubs or in other ways, but not having been cured and perhaps not having had their ailments correctly diagnosed they go to the hospital in the hope of getting a definite opinion from the highest medical authority" So far our correspondent He considers that a great deal too much attention is paid to lectures and not nearly enough to practical work—a contention which is in some ways, we think, justified As to the conditions under which general practice is carried on he says that the well-to-do patronise the specialist and the hospital physician who "plays the double part of consultant and high class medical practitioner" The working classes patronise medical aid societies and penny a week clubs No one, thinks our correspondent, should be permitted to accept less than the minimum fees of 2s 6d and 21s He concludes by saying. "It might well be said that the pecuniary interests of the teaching and examining bodies appear to be much safer in the hands of the General Medical Council than are the vital and sanitary interests of the British public" One medical protection association at least has adopted the principle of binding its members to accept no less than a minimum fee, the sum being slightly lower than that mentioned by our correspondent A monopoly of practice will never be granted to medical men but something will have to be done to make unqualified practice more difficult It is not illegal, but we do not see why its practitioners should not be made to pay a heavy fine for the privilege of being allowed to treat their patients—i e, should have to pay a large sum for a licence, renewable every year and revocable without notice, while anyone found practising without a licence should be liable to imprisonment with hard labour on conviction

"THE PREVENTION OF TUBERCULOUS DISEASE"

DR ALBERT S ASHMEAD of New York has a grievance and has written to us at some length on the subject He says "I have often had the experience that things which have been observed and studied carefully, and then written about by Americans and published not in one place but in two and even three appear suddenly in some continental journal or society meeting as if an entirely new idea had just originated in the mind of some medical Sir Knight and was now seeing the light of day for the first time in a European paper. Is it not time that it should be understood that the American Union has not only made its appearance as a world power, but also one of the leaders of medical thought?" We quote Dr Ashmead's own words because we are not quite sure what he *means*, but we think that *his American* colleagues will hardly thank him for writing in such a strain. We should like to know what the "American Union" is, for instance, and whom he accuses of plagiarising, and what the unknown has plagiarised Dr Ashmead has read in the *Sun* (New York) an account of Sir William Broadbent's remarks at the recent meeting at the Mansion House and Sir Richard Thorne's Harben Lectures He has also read our leading article of Dec 3rd, 1898, on the subject of the prevention of tuberculous disease As an answer apparently to all this he *sends* us a paper written *by himself* and published in *Science*, vol xx, No 506 (1892), on "The Absence of Cow's Milk from Japan and its Beneficial Consequences" We have carefully read the paper but cannot quite associate its tenets with those held by the English observers already mentioned He first makes the extraordinary statement that the reason for the absence of rachitism from the Japanese race is because cow's milk is never given to children, they deriving liquid nourishment from their mothers until the age of six years, and then says that tuberculosis is very far from being absent from Japan He apparently intends to show that he proved in 1892 that milk has nothing to do with tuberculosis, for although milk is never taken in Japan yet tuberculosis exists Could any argument be weaker? If he had said that milk is not taken and the race is therefore free from intestinal tuberculosis we could understand him, but to make such remarks as we have quoted on such grounds cannot add support to his contentions

DEATH UNDER CHLOROFORM

JESSE COOK, aged 38 years, died from the effects of chloroform in the workhouse hospital of Fir Vale, Sheffield, on Dec 7th, 1898 The man required a slight operation upon one of his knees and for this purpose chloroform was administered from lint by a junior medical officer, one drachm, *it is stated, being used* *The patient was in the stage* of excitement (third degree of narcotism of Snow) when respiration failed Mr C Black, who has courteously supplied us with notes of the case, believed that death was due to "paralysis of the respiratory centre, although the verdict arrived at by the coroner's court was "Death from syncope caused by the administration of chloroform" The *two conditions are very different* indeed and need the most careful differentiation As has been pointed out again and again in our columns the smallness of the dose has little bearing upon the mechanism of the death, It is the rate of evaporation and of absorption of the drug which produces death In Snow's experiments in one case he gave *to a cat a 4 per cent.* vapour of chloroform and in 16 minutes *respiration* ceased although the heart did still beat. In others he gave 10 per cent, using small quantities in each case In half a minute insensibility was present, in a minute respiration grew difficult and the heart's action became weak; and in between three and four minutes respiration and circulation *had ceased* Now, as Snow points out, in the first case when the vapour used was comparatively weak the death occurred gradually, "The breathing was arrested by the influence of the chloroform on the nervous centres, but the heart continued until it was stopped or very nearly so for want of respiration, as in asphyxia from privation of air" In the other cases "the action of the heart was *arrested* by the direct effect of the chloroform, in one instance at the same moment as the respiration and in the other even before it" Surely *no two modes of death can* be more distinct, and their confusion is most disastrous, since in the one instance the patient can practically always be saved if the condition is *recognised and* artificial respiration is at once applied, while in the other the patient can seldom be brought round In the Fir Vale case no doubt during struggling the patient's forced breathing led to an increased chloroform vapour tension in the lungs and a fatal overdose was taken

THE LIVERPOOL SCHOOL OF TROPICAL DISEASES IN CONNEXION WITH UNIVERSITY COLLEGE, LIVERPOOL, AND THE ROYAL SOUTHERN HOSPITAL

IN a letter dated Nov 9th, 1898 published in the London papers the *Secretary of State for the Colonies* pointed out that the Medical School of University College, Liverpool, and others situated in large seaports, possess exceptional facilities for the study of tropical [illegible] Stimulated by this and considering the [illegible] prevalence of tropical diseases, knowing also the very large number of such cases which find their way to Liverpool, owing to the connexion of that city with the trade of West Africa and other tropical countries, and taking into consideration that the Royal Southern Hospital and the newly-opened Thompson-Yates Laboratories of Physiology and Pathology offered every facility for teaching and research, Mr. Alfred L. Jones of Liverpool generously came forward and offered to support the movement for founding a school for tropical diseases in Liverpool by an annual grant of £350, suggesting the formation of a committee to consider the best mode of inaugurating such a scheme. The port of Liverpool offers very great advantages for the investigation of tropical diseases. Some of the largest steamship liners in the country keep up constant communication with Africa, South America, and the East, the intercommunication with West Africa being especially great. The Royal Southern Hospital from its close proximity to the docks has annually treated large numbers of patients suffering from malarial and other tropical affections. In recent times the Government subsidised a number of beds in the hospital for the use of soldiers returned from the Ashanti war. Pending the erection of a new block one floor of the hospital will be set exclusively apart for the study of tropical diseases. This consists of a well-ventilated and well-lighted ward which will contain 20 beds and of an adjacent capacious ward laboratory for the examination of blood, urine, fæces, and other excreta. This laboratory will be furnished with the apparatus applicable to modern clinical research. The Thompson-Yates laboratories are situated within easy reach of the hospital; a full description of them was given in The Lancet of Oct. 1st and 8th, 1898. There will be a special lectureship in tropical diseases in the new school at a salary of £250 per annum and it is hoped to obtain for the purpose the services of a gentleman who has devoted his life to the study of tropical diseases and who will not be debarred from private practice. Further particulars as to this appointment will be found in our advertisement columns. His lectures will be illustrated by lantern slides, diagrams, and reference to the cases in the tropical diseases ward. There will also be a demonstrator of tropical pathology whose time will be wholly devoted to that subject and who will teach both in the ward laboratory and in the Thompson-Yates laboratory. As many gentlemen who intend to take up the study of tropical diseases will probably come from a distance it is proposed to offer special residential accommodation in the Royal Southern Hospital. The foundation of schools devoted to tropical diseases cannot fail to give a fresh impetus to the study of this important branch of medicine. Medical men before proceeding to the colonies or taking medical charge of ships can in future thus obtain a complete course of instruction in tropical medicine. We are glad to be able to announce that the income of the new school is already £900 a year.

LIQUID HYDROGEN.

On Jan. 20th Professor Dewar gave a lecture at the Royal Institution upon liquid hydrogen. In the course of his opening remarks he said that he hoped to be able to exhibit some liquid hydrogen in the course of the evening but that he doubted whether he should, for some 10,000 things might happen to prevent it. Pressure and cold were the two agents employed in liquefying hydrogen. The first gas to yield was chlorine, which was obtained as a liquid by Faraday and the pioneers in the reduction of the more refractory gases were Andrews, Graham, Pictet and Cailletet, and Olszewski. At this point of his discourse Professor Dewar received a message from the laboratory. He then remarked, "Just what I expected, the tap through which the liquid hydrogen was running is blocked by a lump of frozen air." This to an audience largely composed of persons other than purely scientific men and women might have been considered somewhat startling, but owing, we suppose, to the genius loci, nobody exhibited more surprise than if Professor Dewar had remarked that an ordinary water-tap was frozen. Proceeding with the account of hydrogen Professor Dewar said that its boiling point was – 240° C., or about 30 degrees of absolute temperature. Its chief use at present was to make high vacuum tubes which it did almost instantaneously by condensing the air into a liquid. With regard to its properties it exhibited a well-marked meniscus, capillarity, no appearance of a metal, and would not conduct electricity. Professor Dewar concluded by expressing a hope that at a future lecture he would be more fortunate and would be able to show some of this newest liquid.

PRESENTATION TO DR. COUPLAND.

On Jan. 28th a numerous gathering assembled in the large lecture theatre of the Middlesex Hospital Medical School on the occasion of a presentation to Dr. Sidney Coupland on his severing his active connexion with the hospital and medical school in virtue of his appointment as a Commissioner in Lunacy. The presentation consisted of a set of table silver, comprising candlesticks, salt-cellars, salvers, and bowl, all designed in the style of the best period, the bowl bearing the inscription: "To Sidney Coupland, M.D., F.R.C.P., from his colleagues, pupils, and friends at the Middlesex Hospital, 1872–1898;" together with a diamond and sapphire pendant for Mrs. Coupland. Dr. Cayley in making the presentation spoke in eloquent terms of the zeal and unselfishness which Dr. Coupland had always shown to the hospital and school throughout the number of years during which he had been connected with them. Dr. Coupland, speaking with evident emotion, thanked Dr. Cayley and those friends who had interested themselves in the presentation and referred to the devotion he felt towards the hospital and the grief which it caused him to cease his active work on its staff. After the ceremony the visitors had an opportunity of inspecting the new school buildings which had just been completed, the well-equipped and appointed laboratories of which fully bring it up to all the requirements of modern medical study.

HOSPITAL ABUSE AND THE ABUSE OF FRIENDLY SOCIETIES IN AUSTRALIA.

It is to be gathered from the letters of our special correspondent in Australia that hospitals and friendly societies are liable to the same abuses which call for such loud complaint at home. The expenditure of the Melbourne Hospital under all items increases. Probably but little care is taken to exclude the unfit, for we note that the daily average of cases has increased in two years by 24 and coincidentally the number of operations. A sub-committee of the hospital appointed to investigate this evil and to find a remedy for it has arrived at some remarkable conclusions, one of which seems quite original, and—supposing the patients to be rightly admitted as fit subjects for hospital help—very cruel. Visitors to patients are to be charged sixpence a ticket for admission as if they were visiting an exhibition. This is an ingenious device, but not very creditable to a charitable institution. In-patients as well as out-patients are to be charged a registration fee; the contract system has to be extended to all departments; and students are to be more heavily taxed by paying annual fees as well as entrance fees. The one conspicuously proper remedy for this evil—the exclusion of the unfit—is not even mentioned. We venture to suggest to the authorities the reconsideration of the charge on the really poor for visiting their friends and the establishment of an efficient system for excluding the unfit. A far larger number of cases of disease can be treated at home than is generally supposed and the indiscriminate admission of people to the out-patient or in-patient department tends to exaggerate the error. The relations between the medical profession and friendly societies have been under discussion at a conference of delegates from the medical societies of the colonies and some resolutions were passed which will be studied at home with interest. It was agreed that the societies should impose a wage limit of £200 per annum upon all their members; that each member of a lodge should pay an annual fee of 10*s.* and a fee of 1*s.* for each consultation and 2*s.* 6*d.* for each visit of the lodge surgeon; and that midwifery, miscarriages, anæsthetics, operations, and cases involving legal proceedings should be extras. From the information already collected by the Medical Defence Union of Australia, at whose instance the conference has been held, it is clear that the abuse of friendly societies by well-to-do people is very prevalent. One suggestion is very good, that a conference should be held between delegates of the medical profession and delegates of the friendly societies. This is the likeliest way of getting any real improvement and until it has failed other measures should be postponed. Public opinion will be much more in sympathy with those seeking the correction of abuses if they are first amicably discussed between the parties most interested. We are glad that the proposal for such a conference has emanated from the medical profession.

HELIOTHERAPY *ALIAS* PHACOTHERAPY.

"IT was in the beginning of the month of September last that I conceived a therapeutic process which seems to me to be new." Such are the opening words of a communication which was made by M. Pierre Apéry of Constantinople to the Société Française d'Hygiène, the occasion being an ordinary meeting of that body on Dec. 9th, 1898. The duration of the gestatory period cannot but strike the professional reader as perilously brief, but it is to be hoped nevertheless that M. Apéry's offspring may not prove to be an abortion after the fashion, alas, of so many other therapeutic novelties. Archimedes, we believe, was the first to make use of burning-glasses, but whereas the Syracusan mathematician employed them for a destructive purpose the Ottoman observer hopes by their instrumentality to put an end to disease. Having offered some rather desultory remarks on the ancient and modern employment of heat in medicine M. Apéry continues as follows: "A goodly number of infectious affections undergo a salutary modification when exposed to the influence of solar light. The micro-organisms which rightly or wrongly are regarded as *the factors of* diseases, do they not recognise the direct light of the sun as their greatest enemy? It is well known that, among others, the microbe of tuberculosis fades away more readily, and perhaps more rapidly, under the direct action of solar rays than it does through the agency of the so-called antiseptic preparations. These are the considerations which have induced me to present to you to-day a new process for the treatment of a series of disorders that are amenable to light and heat. My method consists in the concentration of solar rays by means of a converging lens and consequently in the formation of an intensely calorific and luminous focus." Among the diseases on which M. Apéry proposes to operate with his burning-glasses are some "reputed incurable," such as cancers, tuberculous ulcerations, &c., and he also is of opinion that the process is peculiarly applicable to the bites of sick or venomous animals. "In fact, wherever the destruction of a parasite is indicated, or that of a noxious microbe together with its secretions and toxins, phacotherapy can be adopted with confidence, the invasion of the tissues by the micro-organisms and the pullulation of the latter therein being in this way effectually prevented." In addition to phacotherapy, which consists essentially in the transmission of solar light and heat through lenses in a concentrated form, M. Apéry also indicates spectrotherapy as a therapeutic medium. The prismatically decomposed rays are sure, he thinks, to prove useful in certain pathological conditions, but as yet he has not been able to investigate the matter sufficiently. Doubtless in a few cases, and especially among travellers and explorers, cauterisation by means of a burning-glass might be employed advantageously, but M. Apéry must not flatter himself that he is the first in this particular field. If he will take the trouble to refer to Pliny he will find a passage to the following effect: "These are balls or globes of crystal or glass which being exposed to the sun transmit a heat sufficient to set fire to cloth or *corrode the dead flesh of those patients who stand in need of caustics.*"

THE PUBLIC HEALTH OF MALTA.

WE *have just received* the report of the Public Health Department of Malta for the year 1897, compiled by Dr. S. Pisani, chief Government Medical Officer. The estimated population on Jan. 1st, 1897, of the islands of Malta and Gozo was 157,736 and 20,009 respectively. The number of births in the two islands in 1897 was 6019 and the number of deaths was 5547; the birth-rate per 1000 living was therefore 38 and the general death-rate 31·8 per 1000. The death-rate of both islands was 25 2 per 1000 in 1895 and 7 8 per 1000 in 1896, the steady increase being due to an extremely high infant mortality. The disease which is most destructive to infant life in Malta is enteritis. The percentage of deaths under five years to total deaths was for Malta and Gozo 50 6 in 1895, 52 9 in 1896, and 61·3 in 1897. The general list of deaths includes three from small-pox, 189 from measles, three from scarlet fever, 76 from whooping-cough, two from diphtheria, 82 from enteric fever, 53 from dysentery, 62 from remittent fever, 440 from various forms of tubercle, eight from leprosy, 164 from apoplexy, 473 from cardiopathy, 377 from bronchitis, 431 from diarrhœa, and 933 from enteritis. The water-supply has been immensely increased as a result of measures initiated by the Government some years ago. Dr. Pisani, however, considers that the natural resources of the islands cannot provide sufficient water for scavenging and flushing drains, and he therefore recommends that sea-water should be used for these purposes. The report contains no special reference to the health of the garrison or fleet. The highest reading of the maximum thermometer was 97 8° F. in September, and the lowest reading of the minimum thermometer was 39 4° in January. From February to September inclusive rain fell on 40 days, the total amount being 4 641 inches; in the four winter months, namely, October, November, December, and January, rain fell on 50 days, the total amount being 9 575 inches. A great seizure was made of over 500 bags of raw coffee berries coated with a mixture of finely powdered plumbago and lead chromate, so that to the untrained eye they did not differ from the best coffee berries. The bulk of this coffee was imported from Trieste, but some of it was traced to Genoa, to Hamburg, and in one instance to London.

"THE NEED FOR CARE IN THE USE OF QUININE IN MALARIAL HÆMATURIA."

To the *New York Medical Record* of Jan. 7th Dr. H. A. Hare, Professor of Therapeutics in the Jefferson Medical College of Philadelphia, contributes a sensible paper on the above subject as a friendly criticism of a special article by an anonymous writer in the *Medical News.* Dr. Hare's object is in no way to disparage quinine or to deny its immense usefulness in malarial disease, but to enter a protest against its indiscriminate use and to show that the caution which Koch has lately given with reference to its use in malarial hæmaturia is well justified and had indeed been given before by many writers in America and especially by physicians in the Southern States. As long ago as 1892 Dr. Hare investigated the views of physicians in those parts of the United States where the mortality from malaria is greatest and reported the results to the Association of American Physicians. He thought himself "justified in stating that quinine is often useless and harmful in the bloody urine of malarial infection, although circumstances might exist in which the drug might be used." He did not go so far as to deny that in some cases of hæmoglobinuria the frequency of the paroxysms might be such as to make the administration of quinine necessary, the kidneys being flushed out by diuretics such as the vegetable salts of potassium. Here the quinine is given because the danger of the continued attacks is greater than that of renal involvement from the drug. He says that everyone admits that malarial poisoning does cause nephritis. A committee of the Tri-State Society of Alabama, Tennessee, and Mississippi found nephritis in all cases of fatal malarial hæmaturia; so did Ralfe. Kiener and Kelsch have found glomerulitis. He further shows that according to writers of experience quinine in full doses has similar effects, producing renal congestion and inflammation. He instances several cases of hæmaturia from its use. The general result of Dr. Hare's paper is to show that quinine is to be used "with brains" if the best results are to be attained and that its routine use in blissful ignorance of its dangers ought not to be advocated, while on the other hand, no one for a moment would cast discredit on a truly specific remedy.

WORKMEN'S COMPENSATION ACT.

THIS Act has only been a little more than six months in operation, yet statistics show that the number of fatal accidents in industrial employments brought forward for compensation in that time have increased by 12½ per cent. and of non-fatal accidents 43 per cent. Numerous difficulties have arisen, notably in those cases in which a man who has been the victim of some chronic disease meets with an accident and dies shortly afterwards; was death due to the disease or the accident? A case of this kind was recently before Judge Meynell at the Sunderland county court. A shipwright named John Cairns while working for Messrs. John Blumer and Co., shipbuilders, of Monkwearmouth, while in a stooping position received on the right loin a blow from a hammer which fell from a staging above. He was at once removed to the hospital but never recovered sufficiently to be discharged. About the sixteenth day after his admission his condition underwent a change for the worse and he died exactly a month after the casualty. His dependents claimed compensation for his loss. The claim, however, was disputed on the ground that death was due to disease and not to the accident. There seems no doubt that at the time of the mischance the man was not in sound health. Several medical men were called on both sides, those for the plaintiffs maintaining that although kidney disease might have been present, yet the blow was responsible for the disease proving fatal, whilst the expert witnesses for the defence alleged that death was attributable to "pneumonia due to chronic disease of the kidneys." Such cases offer a formidable demonstration of the fertility of the field for expensive litigation afforded by the Act. Numerous instances of a similar kind can be imagined: a man suffering from chronic bronchitis and emphysema breaks a rib and dies; a man suffering from chronic pulmonary tuberculosis shortly after lifting a weight has a fatal attack of hæmoptysis, and so forth. From this point of view the Act is likely to be disastrous to men who depend for their livelihood on their employment and who are the victims of some chronic disease which in itself may not threaten life for a considerable period but who are capable of doing a very fair amount of work. For if several cases of the kind just quoted are brought into the courts the masters will be obliged to protect themselves with the result that medical certificates will be required by them from the men certifying that the latter are perfectly healthy and not the subjects of any form of disease. It is to be hoped that efforts which are now being made to induce the legislature to modify the Act will be successful.

THE REFLEX MECHANISM OF THE BLADDER.

THE researches of various experimenters have established the fact that the expulsive efforts of the bladder can be excited by stimulation of sensory nerves, so that, as von Zeissl has shown, contraction of the bladder can be induced not only directly by stimulation of the nervus erigens but also in a reflex manner by stimulation of the sciatic nerve. The evacuation of the contents of the bladder is not, however, quite so simple as it at first sight appears to be, and it is now generally admitted that two distinct factors are in operation—a motor influence which causes contraction of the bladder and increased pressure on its contents, and an inhibitory influence which causes relaxation of the sphincter vesicæ and permits the fluid to escape. As a rule the two events occur simultaneously or nearly so—the detrusor urinæ represented by the body of the bladder contracting and the sphincter vesicæ situated at the neck of the bladder relaxing; but it is a matter of common experience that the two actions may not work harmoniously. The detrusor may contract vigorously yet no urine may be discharged because the sphincter does not relax and on the contrary the detrusor may remain flaccid and yet the urine may escape because the sphincter relaxes. The subject has been taken up by Dr. Alfons Hanc whose observations were made in Professor von Basch's laboratory and are recorded in the tenth number of Vol. LXXIII. of Pflüger's *Archiv*. Dr. Hanc proposed to himself to study and analyse with greater precision than has hitherto been practised the motor phenomena of the reflex act and the influence exerted upon it by different poisons. With this object in view he injected a definite quantity of fluid into the bladder previously emptied of its contents and then applied an electric stimulus of uniform strength to the sciatic nerve. The animal which was the subject of the experiment was placed under the influence of curara to prevent the disturbing influence of muscular movements. In addition, in each experiment the commencement of the action of the detrusor was determined by the rise of a manometer one limb of which was inserted into the bladder and the commencement of the relaxation of the sphincter was determined by the quantity of fluid discharged in a unit of time. The latent period of the two muscles proved to be very different. The latent period of the detrusor—that is to say, the reflex time which elapsed between the application of the stimulus and the rise of pressure of the fluid in the bladder—is itself not always the same. In general it amounts to about one second but in some instances it is as much as two or even four seconds. The latent period of the sphincter is almost always greater than that of the detrusor and there does not appear to be any direct relation between the two, the interval varying from 1·03 to 5—that is to say, the postponement of the discharge of urine after commencing contraction of the detrusor is very variable. In not a few instances the sphincter opened or relaxed more quickly with low pressure in the bladder than with high, which clearly proves that the discharge of fluid from the bladder is independent of the amount of pressure in the bladder. On experimenting with various poisons he found that after injection of morphia in the course of a quarter of an hour the reflex expulsive action of the detrusor was preserved, whilst the depressor or relaxing action on the sphincter was lost The blood pressure remained unaltered Similar results were obtained with chloral hydrate After the ingestion of five grammes of a 10 per cent solution of chloral hydrate the sphincter reflex was abolished whilst the detrusor reflex, slightly weakened, was preserved and the blood pressure was sustained Atropine weakened the reflex action of both the detrusor and the sphincter, hence with some increase in the manometric column showing the pressure exerted by the detrusor on the contents of the bladder there was a diminution in the discharge owing to inadequate relaxation of the sphincters These three poisons belong to the group which rather depress than excite the nerve centres The next poison with which Dr. Hanc experimented was strychnia which strongly stimulates the nerve centres and the effects of which he thought were of special importance to determine since it is so often administered in cases of disease of the bladder He found that sometimes it causes an increase of the reflex action both of the detrusor as manifested by increase of intravesical pressure and also of the sphincter manifested by increased outflow, the former action being more marked than the latter In other instances it abolished the reflex on the sphincter completely whilst that on the detrusor was maintained, and in still another case the sphincter dilated without previous contraction of the detrusor though this latter action followed some time subsequently The effects of muscarin and of nicotin are complicated, for muscarin acts so to speak spontaneously—that is without reflex stimulation—and it acts in this way both on the detrusor and on the sphincter and we must refer to the original article for the further details of its action He considers that it certainly supports the view of the independency of the action of the detrusor and of the sphincter The phenomena observed in animals under the influence of nicotin lead to the same conclusion The whole results of his experiments tend very clearly to prove the distinctness of the motor and inhibitory centres which control the act of micturition

"LIFE IN A FRENCH COD-FISHING FLEET"

IN a long and exhaustive article on the above subject which occupies more than half of the entire space in the *Archives de Médecine Navale* for November and December, 1898 Dr L Chastang, who is a naval surgeon of the first class, gives the following picture of life in a French cod fishing fleet "Over and over again," he exclaims in his exordium "has the miserable existence led by these hapless beings been made public during the last 40 years, but were the writers to be now called upon to report afresh all that they would have to do would be to copy their original reports In this profession there is no such thing as progress" The vessels are strong and speedy, but everything is sacrificed to the cargo the crew being overcrowded to the last degree The filth is simply indescribable The men never take off their clothes and seldom even remove their immense boots when they turn in Washing is unknown Putrescent refuse is habitually thrown under foot As there are no sanitary appliances of any description the calls of Nature are obeyed in every corner not only on deck but below in the sleeping place The sleeping berths are fearful holes absolutely unventilated Everywhere filthiness is pushed to its maximum "Side by side with alcoholism" continues the author, "filthiness is the chief vice of the French sailor, at once the most profound the deepest rooted, and the most hideous to appreciate this properly he must be seen and smelt The observer who has only visited vessels of a similar character but flying flags different from ours could form no idea of it, nor would he see anything approaching it Fortunately the men spend most of their time in the open air They work on an average 18 hours out of the 24, and that without a day off from first to last even on Sundays, throughout the whole of the five or six months during which the fishing lasts In the matter of food there is apparently little cause of complaint, although Dr Chastang seems to think that the men are induced to put up with indifferent eatables by a more than liberal allowance of strong drink In addition to wine, of which a large ration is served out daily, each man receives several drams of so called brandy In reality it is corn spirit of the cheapest quality Living under such extremely insanitary conditions it is a remarkable fact that there is little or no sickness of an acute description among the cod fishers Rheumatism and neuralgia are chiefly complained of, but cases of typhoid fever are also comparatively frequent. There can be no doubt however, but that every one engaged in the industry grows old before his time Men of 40 years of age have the appearance of men of 70 years and it is a pregnant fact that State pensions to North Sea fishermen are few and far between Although they invariably commence as youths they have nearly all died off before the completion of their 25 years service entitling them to a pension Badly as our merchant sailors may think themselves treated we venture to think that from a hygienic and moral point of view no British shipowner can be compared with the *armateurs* who control the lives and fortunes of French fishermen

THE PAY OF COLLIERY SURGEONS

IN our issue of Nov 12th 1898 we mentioned that a movement had been started among colliery surgeons and other practitioners undertaking duties by contract in the county of Durham to obtain better pay On Dec 8th 1898 a meeting was held at Durham to consider the matter The practitioners in the county had previously been notified by circular of the meeting and the motions to be submitted to the meeting had been forwarded to them As a result 70 practitioners attended the meeting, while 300 sent in their adhesion to the motions These, which were carried unanimously, were as follows first, that an association of practitioners in the county of Durham and the neighbourhood should be formed to protect the interests of the profession, to be called the County of Durham Medical Union; and, secondly, that the rate of remuneration to be paid by an adult workman per fortnight should be *9d* instead of as at present *6d*. The reasons given for this increase were set out in our issue of Nov 12th, 1898 Some of those present at the meeting expressed a fear that the result of the resolutions would be to swamp the county with new medical men who would contract at the old rates We hope for the honour of the profession that this will not be the case and we do not think that it will be, for since the action of the General Medical Council in putting down unqualified assistants the supply of medical men is not so much in excess of the demand As an instance of this we know that when one firm of practitioners advertised some five years ago for an assistant they received 50 applications On advertising this year they only received four or five—a fact which presumably shows that the supply of unemployed qualified men is much lessened

VOMITING IN INFANCY

DR G VARIOT contributes to the *Journal de Clinique et de Thérapeutique Infantiles* of Dec 22nd, 1898 and Jan 5th 1899, some excellent observations on the causes and prevention of vomiting in infancy The subject is discussed more particularly in its relation to diet and it is divided for convenience into two sections—(1) vomiting in breast fed infants, (2) vomiting in artificially fed infants The following causes are comprised under the first head a probably toxic action in the milk of weakly mothers, the furtive introduction of other food than breast milk, drugs taken by mothers, the influence of emotion on the breast milk, and (?) an excess of casein in the milk. This last-named factor in the process has been made much of by American practitioners. Dr. Variot thinks too much importance has been attached to it and he strongly condemns the "milk laboratories" by which it is sought to remedy the supposed incapacity of nature as a milk producer. He has one method which he relies upon as a corrective of her temporary errors—namely, the regulated use of sterilised cow's milk. This he does not resort to until a methodical use of the maternal breast under as favourable conditions as are obtainable has failed. We now come to the second head. In the feeding of children brought up by hand the quantity of milk taken during a given time is, Dr. Variot reminds us, of only less importance than its quality. He quotes the researches of Snitkin, Fleischmann, Morgan Rotch, and others in proof of the rapid physiological development of the infant stomach which, beginning with a food capacity equal to 30 grammes at birth, rises to that of 90 grammes from the sixth to the eighth week of life. Nevertheless, as he remarks, its capacity is still limited and a milk-supply of from 60 to 80 grammes is more suitable than the gluttonous dose of 125 grammes which is not an uncommon cause of over-distension and consequent rejection of milk. He advises as the best mode of treatment in such cases a reduction in the amount of milk taken and an extension of the intervals between the meals. In a case of obstinate vomiting quoted by him this plan was adhered to in spite of some temporary loss of weight with almost immediate and lasting benefit and ultimately with much improved nutrition. In this connexion we may again direct attention to Dr. Comby's interesting observations on Dilatation of the Stomach in Infancy, quoted in THE LANCET of July 24th, 1897. Dr. Variot is an undoubting advocate of sterilised milk for hand-fed infants and is fortified in this position by an experience of 500 cases thus nourished at the Belleville Dispensary. He records the interesting fact that the milk is taken undiluted in many instances even by infants a few weeks old and does not disagree. In others a weaker digestion entails necessary dilution by adding a third part of boiled water. The quantity must in like manner be regulated not by mere age, but rather by the body weight and relative robustness of the child, an atrophic infant four months old requiring from 75 to 90 grammes each time when fed, and a healthy child of the same age from 120 to 135 grammes.

THE CAMBRIDGE UNIVERSITY ASSOCIATION.

A WELL-ATTENDED meeting was held on Tuesday afternoon last at Devonshire House on the invitation of the Duke of Devonshire, Chancellor of the University of Cambridge, to consider the pecuniary position of the University. The Cambridge University Association was formed some two years ago to enlarge the resources of the University for educational work by creating an endowment fund, and the meeting over which the Duke of Devonshire presided may be looked upon as its inaugural one. His Grace made an excellent speech advocating the foundation of the Association as a bond between old and new members of the University and gave practical proof of his sentiments by contributing £10,000 towards the endowment fund. The Vice-Chancellor of the University (Dr. Alexander Hill, M.D. Cantab., Master of Downing) proposed and Professor Jebb, M.P., the representative of the University in Parliament, seconded a resolution approving the establishment of the Association; the Master of Trinity (Dr. Butler), Sir Richard Webster, Professor Clifford Allbutt, M.D., and Professor Ewing, spoke forcibly in its support, and it was carried unanimously. An executive committee was then elected. The Duke of Devonshire announced that the firm of Lord Rothschild would contribute £10,000 to the Association and that the Drapers' Company had intimated their intention of contributing for ten years £800 a year in support of a Professorship of Agriculture. A cordial vote of thanks to the Duke of Devonshire for his services was unanimously accorded and in this auspicious way the work of the Cambridge University Association has been inaugurated. Remembering the position which the University has achieved for itself in the paths of science and without any consideration of its claims as a splendid institution of unsullied history, all medical men must wish this successful start to be followed up rapidly.

AN ELOQUENT TRIBUTE.

THE following lines appeared recently in the *Westminster Gazette*. They constitute as eloquent a tribute to the virtues of the medical life as we have ever read:—

TO A CERTAIN DOCTOR.

"I'm *only a doctor*," is your cry.
  "Concerned with the body's ills and maims,
But witless of art and poesy,
  And lost to the spirit's finer aims."

Ay, only a hand by hundreds blest,
  A heart that has ached for all, save self,
A brain racked ever to find them rest,
  A soul whose riches are scorn of pelf.

In vain we argue; the theme is old:
  Some men love horses, some singing-birds
But e'en if the poet's song ring gold,
  Shall deeds that are gold weigh less than words?

You waived the pleasure and wooed the strife,
  Of thorns, not roses, have made your bed;
You longed for the lovely side of life,
  And fought with the terrible instead—

Longed sore, but never had time to give,
  "Till now it is all too late," you say.
So be it. Why, man, the life you live
  Is one long poem from day to day.

JAMES RHOADES.

We trust to hear more and frequently from Mr. Jame Rhoades.

MR. E. CLIMSON GREENWOOD has been appointed teacher of vaccination to the Medical School of St. George's Hospital. Under the provisions of the Vaccination Act the teaching of vaccination at vaccination stations necessarily comes to an end. Under the arrangements now made at the St. George's school the teacher of vaccination will give a short course of lectures in the school and will make arrangements for the students attending the lectures to accompany him during domiciliary visits. One advantage may b expected from the new conditions—viz., that the student will be able to watch the progress of the vaccine vesicle to a later stage than was the case under the old system.

THE annual general meeting of the Hunterian Society will be held on Feb. 8th, at 8 P.M., at the London Institution, Finsbury-circus. At 8.30 P.M. the annual oration will be delivered by Sir Hugh Beevor, Bart., M.D. Lond., on "The Declension of Phthisis." Members of the medical profession are invited to attend. The annual dinner will be held at the Café Monico on Friday, Feb. 10th, at 7 P.M.

DR. F. J. WALDO, medical officer of health of the Temple and Southwark, has been appointed Milroy Lecturer by the Royal College of Physicians of London for the year 1900. The subject of the lectures will be: Summer Diarrhœa with Special Relation to Causation and Prevention.

BRISTOL INFECTIOUS DISEASES HOSPITAL.—At a meeting of the Bristol Sanitary Authority held on Jan. 17th it was decided to recommend the Town Council to appoint Dr. D. S. Davies (the medical officer of health) medical superintendent of the new infectious diseases hospital at a salary of £50 per annum for the first year and £100 afterwards.

QUACKS AND ABORTION:

A CRITICAL AND ANALYTICAL INQUIRY.

VI.[1]

WE have spoken hitherto of the nature of this trade, we have given our views upon the subject and set out the materials upon which those views are based, and we have also expressed an opinion that the advertisements of the trade are likely to appear less frequently in the immediate future, at any rate in those papers which value their reputation. We have shown by the case of the Irristum Company that no newspaper is bound to insert advertisements if, even after making a definite contract to do so, it finds that in fact they are of such a nature as those of the company in question. We have, however, said nothing of the question of the liability of the newspapers to prosecution for inserting such advertisements. It was stated by Mr. Muir at the police-court, before the Chrimes brothers were committed for trial, that steps would in future be taken against newspapers which lent themselves to the advertising of abortifacients. A presentment recommending such a course has been made by the jury in the Chrimes case and Mr. Justice Hawkins's last act as a judge was presumably the forwarding of this recommendation to the proper quarter after the trial was concluded.[1] Mr. Muir presumably represented the City Police alone, while the Home Office or the Treasury, or whatever office may have initiative power in such matters, has viewed the advertisements to which we have called attention in detail, and scores of others as bad, for long with indifference. At the same time it is possible that steps to prosecute may now be taken. If they are not there is considerable likelihood of things very soon relapsing into their former condition. We said when we commenced our articles that the advertisements were less common than they had been in October; at the same time we find exactly as we predicted that they have not really ceased. The long columns of puffery, innuendo, and dirt appear temporarily to be without a journalistic lodging; but a line or two has made an appearance in several provincial prints since the exposures which shows that the evil is not dead, but only sleeping. This makes us sure that when once the popular outcry against them has been hushed the less scrupulous proprietors or managers will again yield to temptation unless care is taken to see that they do not prostitute their advertisement columns in this way.

With regard, however, to the precise legal position. Those who publish that which is obscene can undoubtedly be indicted for so doing and the test of obscenity was laid down by Lord Chief Justice Cockburn in 1868 in an appeal by a person of respectable position who from motives of Protestant propagandism disseminated copies of "The Confessional Unmasked." That test is "whether the tendency of the matter charged as obscenity is to deprave and corrupt those whose minds are open to such immoral influences and into whose hands a publication of this sort may fall." Even if the ultimate object in view is to do good it will not avail him who publishes in such circumstances and no one can say that there is such an object in the advertising of the specifics we have analysed. It seems, however, likely that owing to their not being on the face of them indecent they have never been treated as obscene libels by the police or anyone else. The veil of pretended cures for amenorrhœa has protected them. It is, however, possible that the prosecution, if undertaken, would be for inciting, being accessories before the fact, to the criminal acts of which individual advertisers may be guilty as principals—a far more serious charge—or for inciting to commit a felony. If any such proceedings were made retrospective by being taken against those papers publishing such advertisements before the case of the Chrimes brothers threw lurid light on the subject the courts would be fully occupied for some time to come, while the "Irristum" case referred to already would make it a little difficult for some of the accused to plead ignorance of the nature of the advertisements in defence.

There is one more point arising out of the legal aspect of the case to which we call attention. From all, or nearly all, newspapers advertisements such as those of Thomas Ottey and "Professor" Leslie have, for the time at any rate, disappeared. We notice, however, that there still are published in them a number of notices which come within the definition of indecent advertisements given by a recent Act of Parliament known as the Indecent Advertisements Act, 1889. It is a statute which is not quite so comprehensive as its title would imply, for it only prescribes penalties for the affixing of indecent advertisements in public places, the distributing then as handbills and other similar methods of making them public, while it has been held not to apply to newspapers. We quote the 5th Section of this Act: "Any advertisement relating to syphilis, gonorrhœa, nervous debility, or other complaint or infirmity arising from, or relating to, sexual intercourse shall be deemed to be printed or written matter of an indecent nature within the meaning of Section 3 of this Act,[2] if such advertisement is affixed to or inscribed on any house, building, wall, hoarding, gate, fence, pillar, post, board, tree, or other thing whatsoever so as to be visible to a person being in, or passing along, any street, public highway, or footpath, or is affixed to, or inscribed on, any public urinal, or is delivered, or attempted to be delivered, to any person being in, or passing along, any street, public highway, or footpath." The advertisements described in this section are precisely those which, we have said, are still published in those papers which have given up advertising abortifacients and we have two observations to make with regard to this Firstly, we submit that no proprietor of a public newspaper with any sense of propriety or with any self-respect would allow in his paper matter which is by law declared to be indecent and punishable as such if found in a public latrine. Secondly, we wish to point out that those who pay for the insertion of these advertisements are not only of the same class, but are in many instances the same persons as those who sell pretended abortifacients in the guise of emmenagogues. These advertisements are therefore likely to become a means of bringing the abortionist into contact with his clients, for, as we have shown, when a quack sends his medicine to those who order it, he always sends a sheaf of advertisements of all the other articles and concoctions of a kindred nature which form his stock-in-trade. It may also be observed that although the section quoted only says that the advertisements it refers to shall be deemed indecent on a gate-post or urinal, or in other certain circumstances, it by no means follows that such advertisements, if flagrantly plain-spoken or unusually suggestive, may not be found by a jury to be indecent when appearing in a newspaper, and therefore to those whose sense of decency is not fine enough to lead them to exclude such stuff we suggest that there may be danger in it of legal penalties. We shall watch with interest during the next few months the columns of newspapers which have derived profit hitherto from the advertisements of pretended abortifacients, aphrodisiacs, and remedies for venereal disease. We are inclined to believe that the improvement now observable will be but short-lived unless the police in London and in the country show less indifference than heretofore.

With regard to the results of the examination in our laboratory of the potions and pills advertised by the different quacks it will be observed that, despite the fact that no definite line of action or scheme of analysis can be laid down for the identification of vegetable extracts or substances by chemical tests, we have been able nevertheless to state—and state for practical purposes exhaustively—the nature of the contents of both orders of nostrum. We hope to deal shortly with the question of the limitations of chemical analysis in this connexion—i.e., in its application to the identification of drugs in medicines, pills, and potions. We now wish to record that, so far as successful identification has been achieved in the series of articles which we are concluding, it has been due largely to tests of comparison instituted with reference to known specimens which were most kindly placed at our disposal by Messrs. Burroughs, Wellcome, and Co. We cordially tender our thanks to these gentlemen. Some of the preparations, known specimens of which we were compelled to have at our disposal, do not occur in the ordinary stock of manufacturing chemists, but in spite of this Messrs. Burroughs, Wellcome and Co. were good enough to procure them—an act of courtesy which has very materially assisted our laboratory staff in the work of unravelling the secrets of the abortion-monger.

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[1] Articles I., II., III., IV., and V. were published in THE LANCET of Dec. 10th, 17th, 24th, and 31st, 1898, and Jan. 21st, 1899, respectively.

[2] [illegible]

felt as high up the river as Molesey Weir. The Conservators are therefore confirmed in their opinion that the water in the river should not be reduced to a less volume than 200,000,000 gallons daily. The amount of water which passes down the Thames throughout the year taken as a whole is sufficient to meet the wants of the water companies if storage reservoirs of sufficient size existed to take it. The witness insisted that in his opinion it was of vital importance that a flow of 200,000,000 gallons a day should pass down the river at Teddington.

Colonel LOCKWOOD, M.P., in answer to the Chairman, admitted that the East London Company had failed to give an adequate supply to their customers during last autumn and on some previous occasions. They had not, however, entirely ceased to give a supply; "they did not put up their shutters."

The CHAIRMAN remarked that they put them half up and that it was clear that in a year like 1898 or even in an ordinary year the resources of the company were at present inadequate. The witness admitted that this was the case. He, however, gave it as his opinion that much of the inconvenience which had been experienced by the customers of the company last year was due to the removal of the cisterns.

The CHAIRMAN pointed out that evidence had been given before them that the cisterns were full of mice and mud. The witness said that the company refused to supply new houses which were not furnished with cisterns, but after the first supplies were given the cisterns sometimes disappeared. He was of opinion that a great deal of wilful waste had taken place in their district, and that some of their customers wasted as much water as they could to spite the company. With regard to the purchase of the companies' undertakings the witness said that they did not wish to sell. He did not think the London County Council would be able to manage the undertakings as well as they were at present managed, and they had misled the ratepayers as to the expediency of purchase. Should purchase, however, be decided upon, the witness said that, in his opinion, the scheme of purchase which had been put forward by Mr. Banbury was the best method of dealing with the matter. If this scheme were not adopted purchase should take place under the Lands Clauses Act. His reasons for favouring purchase under this Act were (1) because it was the recognised law of the land for the sale of such undertakings; (2) because it provided recognised and well-considered machinery for assessing the value of the property; (3) because all its provisions had been contested before judges and the various points settled; and (4) because wherever a corporation had compelled a water company to sell this Act had always been the one adopted.

The forty-eighth sitting of the Royal Commission was held at the Guildhall, Westminster, on Jan. 31st.

THE INFLUENCE OF SCHOOLS IN ACCENTUATING THE SPREAD OF CERTAIN INFECTIOUS DISEASES.

III.

THE evidence to which we referred in our last two articles, published on Jan. 21st and Jan. 28th, went to show the manner in which elementary schools are apt to act as diffusers of infectious disease, and how that, although this is not by any means always the case when diphtheria is prevalent, the effects of their influence in the mass can frequently be brought out when the figures dealt with are sufficiently large and far-reaching. In this, our concluding article, we shall inquire how this influence for harm which schools are liable to exert may be best detected and controlled.

It is clear in dealing with a matter of this nature that unless there is a thoroughly well-organised intelligence department much of the energy expended on attempts at control will be more or less aimless or ill-directed. If we are to detect the earliest indications of any given school being a factor for harm we must know, as far as practicable, the exact arrangement which obtains at such school, the composition of the several departments, and the circumstances under which the children therein are liable to meet together, as, for instance, in their playgrounds or through the medium of sanitary conveniences common to girls and infants. We should also have a good general idea of the area from which the school draws its children and of the opportunities of aggregation which are afforded for the children at places other than in the secular schools. This will involve *to some extent a knowledge of the habits of the district and of the arrangements made for religious instruction on Sundays.*

But, however intimate knowledge of the habits of the people may be, the machinery of control will assuredly tend to break down unless one essential factor, it may be called the lubricating factor, is present. By this is meant a cordial coöperation between the sanitary authorities and the school authorities. If there be friction in this particular and personal questions are allowed to weigh unduly, all our efforts are likely to be frustrated.

In the forefront of our measures must be as nearly as possible complete information of all cases, slight as well as severe, of the current malady. Without this no accurate knowledge can be obtained of the distribution of any given disease and of its proper relations to the scholars of any particular school. A well-carried-out system of ascertaining all facts as to sickness, coupled where possible with a record of the facts so far as they concern the current malady on a spot map of a district, is of infinite value; and if on such a map there can be roughly indicated what may be termed the "sphere of influence" of each school, it will much facilitate the early detection of disease prevalence in relation to any given school. Information such as this will enable the medical officer of health to watch the development of events and to furnish the school authorities with the necessary information as to the exclusion of scholars from invaded houses, &c. It would tend to assist matters if the medical officer of health were furnished with the names and addresses of children attending each school in his district, such a list being of course corrected periodically. Under any circumstances this official should be placed by statute in such a position as to enable him to procure this list should he deem it desirable. It is clearly inexpedient in the interests both of the lives of children, and of education, that the experiences of Mr. Harris, the medical officer of health of Islington, should be repeated. This gentleman was refused by the London School Board the information above referred to in spite of the fact that Mr. Harris's object was to ascertain by inquiry at the houses of the school-children to what extent measles was still prevalent amongst the scholars. Unfortunately for the intelligence department measles is not notifiable and hence Mr. Harris was almost entirely dependent upon the School Board for assistance. Valuable, however, as is the information to be derived from compulsory notification the mistake must not be made of assuming that it tells us everything. Notification looked at broadly must be understood as meaning only that certain cases of infectious disease have been diagnosed by medical men. It leaves untouched all those cases concerning which no medical man has been consulted and all those about which the medical adviser has not yet made up his mind. To assume that notification is a complete measure of the prevalence of infectious disease is to assume that a medical man is always called in in cases of mild illness and, moreover, that he is always correct in his diagnosis. Notified cases must be regarded as merely an index, and a very rough one, of the actual facts, and search must be made for the existence of non-recognised cases in the neighbourhood of those already notified. Search in this sense may be made in more than one direction, but probably the examination of school-children in school is the plan likely to yield advantageous results with a minimum of labour. This examination to be of the greatest value should be made by a medical man well versed in the initial and late signs of infectious disease, but where this is not feasible the master or mistress may afford very great assistance by an intelligent coöperation with the medical officer of health, who should, of course, always be informed of the exclusion from school of any child owing to a suspicion of infectious disease. Doubtless the best officer to make an examination of the school-children is the district medical officer of health. He has the distribution of notifiable diseases at his finger ends, and he is thus well fitted to gauge at their proper value the facts which come under his notice. We are fully aware that at present the medical officer of health has no statutory right to examine the school-children, and we are further aware that a certain medical officer of health in London who attempted such an examination is reported to have been "severely censured" by the London School Board, who observed that they would not allow him "or any other medical officer of health to examine children in their schools." Other school boards have, too, we believe, taken up a similar attitude. But all this is simply an additional reason for affording the medical officer of health a statutory position as regards this matter both in the board schools and in the voluntary schools. In addition to information to be derived by the assistance of the teachers in our elementary schools we must look to the school attendance officers for their coöperation, and it would probably be useful if these officers were furnished with stamped forms upon which they might notify suspected cases of infectious disease to the medical officer of health and to the school authorities, and also with leaflets of advice which they might leave at invaded houses. So, too, greater use might be made of such persons as the registrar, the clergy, district visitors, &c. With regard to the clergy, their coöperation should be sought in all matters connected with the Sunday-school and although we think that statutory powers should be conferred upon sanitary authorities to close these schools when necessary we feel sure that the clergy will always do their best to assist health administration. Into the subject of disinfection we have no space to enter here. Clearly all houses in which cases of infectious disease, be it small-pox or measles, have been discovered by whatever means should be carefully disinfected, and no children from such houses should be allowed to return to school without a medical certificate to the effect that danger of infection has passed. We fear, however, that this very elementary precaution is but too frequently disregarded.

A word in conclusion as to the sanitary condition of our elementary schools. We have at times found that the officers of local sanitary authorities have been under an impression that these institutions were outside their province and that hence they were not at liberty to search therein for nuisances. As a result of this inaction the closets in connexion with schools, more especially in rural districts, may at times be found in a condition which is far from wholesome and which would not improbably have a tendency to foster enteric fever and diarrhœa, if not other diseases of this class.

THE PURIFICATION OF RIVER-WATER FOR DRINKING AND INDUSTRIAL PURPOSES.

AN exceedingly instructive and important contribution on the subject of water-supply has recently been published in the form of a report on an investigation made at the instance of the President and directors of the Louisville Water Company by Mr. George W Fuller who is well known as having assisted in some excellent work on the question of biological purification of sewage in connexion with the administrative work of the State Board of Health of Massachusetts. The report has been published in the form of a book which must be regarded as a valuable volume of reference considering the remarkable precision and thoroughness of detail observed during the course of the experimental inquiry[1] In short, it is a stupendous piece of work, the report containing thousands of practical and experimental results relating to filtration, sedimentation, coagulation, and the degree of efficiency of the purifying processes investigated. The report occupies a large volume of 480 pages The work was begun on Oct. 1st, 1895, and was practically finished by August, 1897. The inquiry deals of course with the special circumstances of the case under consideration—that of the Ohio River—but the particular conditions therein encountered obtain also elsewhere, and there can be little doubt that the results of this particular experience will be very generally applicable to the great river water-supplies of the world.

As we have said, this investigation relates to the purification of the water of the Ohio River which is supplied to the towns on its banks The watershed of the Ohio River above Louisville is about 85,000 square miles in area. This area includes portions of the States of New York, Pennsylvania, Ohio, Indiana, North Carolina, Virginia, West Virginia, and Kentucky. As might be expected, very wide extremes in geological formation exist in this large watershed, in consequence of which, together with other factors, wide and rapidly changing variations in the composition of the river water are produced. The population resident in this large watershed is about four and a half millions. A peculiar difficulty has to be faced in the purification of Ohio river water on account of the occurrence of suspended mud silt and clay, which practically preclude filtration being adopted alone as a method of purification. These characteristics make Ohio river water a difficult and expensive water to purify. Indeed, owing to the fact that at times this river water contains large amounts of exceedingly minute clay particles subsidence alone is of no avail, and if purification is to be successful and economical the use of a coagulation method is absolutely imperative. In the case of the Ohio river water all three methods—subsidence, coagulation, and filtration—would appear to be correct in principle and the experiments relate to the conditions which were found most suitable for the purification of this water and to the methods which were found to give satisfactory results in accordance with the demands necessitated by these conditions. The most suitable coagulant found for the treatment of Ohio river water was sulphate of alumina. Persulphate of iron, though slightly cheaper, lacked some of the decided advantages of sulphate of alumina. The electrolytic production of aluminium hydrate from metallic aluminium electrodes was found impracticable both on the grounds of excessive cost and of irregularities in efficiency. With regard to the electrolytic production of iron hydrate from iron electrodes this process yields a satisfactory coagulant up to the equivalent of three grains per gallon of sulphate of alumina. But occasionally the amount of dissolved oxygen in the water is inadequate to oxidise larger quantities than this equivalent. Having regard, however, to the cost and the limitations in the amount which can be safely applied without the presence of iron in the effluent as well as to certain irregularities upon reversing the direction of the electric current this process was deemed not advisable in the present instance. Concerning the Anderson process for the preparation of iron hydrate directly from metallic iron the results of laboratory tests indicated that it was not applicable for the economic and efficient purification of the Ohio river water. Several other chemical precipitants were tried but only sulphate of alumina was found practicable. One of the chief difficulties in employing this coagulant is the regulation of the quantity of the added chemical to known volumes of the water which is constantly exhibiting variations in composition at different seasons. The scope of requirement in this regard can only be determined by experience, but it is believed by the application of a good system and by great care and close attention it would become practicable to confine the application of coagulants to a range of three or four points; but, as we have said, this can only be gauged by experience under conditions of successful practice. An excess of coagulant is, of course, to be deprecated, the chemical salt passing into the public supply. This would be detrimental to machinery and also would make the water objectionable for domestic purposes. On the other hand, an insufficiency of coagulant would leave the purifying process incomplete.

The quality of Ohio River water after purification by coagulation and filtration, preceded by subsidence as far as practicable, would appear to leave little to be desired. The effluent so obtained is practically sterile. It is bright and good to the taste. It is recommended, however, that to provide against the growth of algæ all sunny environment should be cut off by storing the filtered water in covered reservoirs. The filtered water it is stated would not give any trouble in the case of lead pipes or in iron pipes which are properly coated with protective paints. In uncoated iron vessels the corrosive action would be somewhat greater than in the case of river water owing principally to the removal of suspended matters which in a measure act as a protective coating. With regard to use in steam boilers there would be more incrusting constituents than in the river water although the annual average amount in the filtered water would be only approximately 60 per cent. of the quantity normally present in the river [illegible] during flood seasons. The effect of this addition, [illegible] neutralised by the removal of the [illegible] with the waters of oth[illegible] water for steam

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[1] Report on the Investigations into the Purification of the Ohio River Water at Louisville, Kentucky, made by George W. Fuller, Chief Chemist and Bacteriologist to the Louisville Water Company. Pp. 480 and 8 full page plates. Price $10.00 net. New York: D. Van Nostrand Co.

The final conclusion of this admirable and colossal piece of work is that the general method of subsidence, coagulation, and filtration is applicable to the satisfactory purification of the Ohio river water at Louisville. The Warren, Jewell, and Western systems of conducting the process do not, however, appear to afford the satisfactory application of the principle on the large scale. By removing the suspended matters from the water, however, large reductions could be made in the size of the filtering plant, the amount of coagulant, and the cost of operation. It is estimated that on the basis of 25,000,000 gallons daily these reductions when capitalised at 5 per cent. would represent about 700,000 dollars. Probably for a less sum satisfactory provisions for subsidence as outlined in the report could be provided "which would not only aid in furnishing a filtered water of better quality but would also give the water consumers a better service in other regards."

The report contains an enormous number of experimental results, mechanical, chemical, and biological, which are embodied in a very remarkable series of tables. The water company and all concerned are to be congratulated on the masterly way in which Mr. Fuller, their chief chemist and bacteriologist, has attacked the problem which has been presented to him. It must have been an enormous undertaking and a very protracted inquiry. It is a model of diligence and enterprise undertaken on behalf of the public interest which might well be followed in this country. We are sure, however, that this very important contribution to the vital question of the purity of public water supplies will not fail to convey many valuable lessons to those entrusted with the details of water administration at home.

REPORT OF THE SANITARY MEASURES IN INDIA IN 1896-97.

THIS is one of the reports periodically issued by the India Office and was published in December, 1898, for the information of both Houses of Parliament. It contains chapters on the health of the European and native troops, and on the health of prisoners in jails and of the general population of India; it also contains chapters on vaccination, on medical institutions, including medical schools and lunatic asylums, and a chapter on sanitary work in that country. Appended to it are abstracts of reports by the three principal sanitary commissioners in India, and memoranda by the Army Sanitary Commission thereon.

Nearly 40 pages are first of all taken up with an introductory report prepared in the India Office of this country. Attention may be fairly called to this as an admirable sample of what may be termed *précis* writing—a much more difficult and laborious task than it is commonly believed to be; for as a matter of fact it is not by any means always easy to sacrifice redundant or irrevalent matter and to epitomise and arrange what remains so as to omit nothing of practical value and at the same time present the reader with a lucid statement of what is really essential to be known. This prefatory statement summarises the results furnished by the various Indian officials in their several reports and gives a brief and instructive medical history of the European and native population, together with a record of the progress of hygiene in that country. We have already touched upon many subjects embodied in this official publication when dealing with the reports of the Sanitary Commissioner with the Government of India, but we may nevertheless advert to a few points. In the first place, then, considering the importance of sanitation in India, we are glad to see that Surgeon-General Harvey, the Director-General of the Indian Medical Department, in his evidence before the Plague Commission recently, expressed himself very decidedly as to the benefit which would accrue to India by the appointment of a sufficient number of health officers with good qualifications, whose time could be given entirely to sanitary work. We have so frequently referred to this subject and to the importance of providing a new and improved machinery for this purpose that there is no need to dwell upon it now. Taking a disease like plague, for example, it would, we think, be futile to rely entirely upon inoculation, even supposing its protective power against attacks of that disease to become demonstrably established, for coping with an epidemic or outbreak. We agree with Surgeon-General Harvey that the natives of India would not consent to be inoculated on any large scale in anticipation of an outbreak, and until we know more about the nature and length of time over which the conferred immunity lasts we have grave doubts as to the practicability of applying this method with the object in view. Valuable as it may be, Surgeon-General Harvey is no doubt correct in saying that inoculation cannot be regarded as anything but an auxiliary to sanitary measures. The great obstacle to the introduction and application of such measures on any commensurate scale into India is the enormous expense and the extreme poverty of the native population. Apart even from the ignorance and the conservatism and caste prejudices of the natives the cost of sanitation in India on any scale at all parallel to that in this country would be altogether prohibitive. Still the time has come in our opinion for remodelling our public health system in India with the view of making its application more systematic, direct, and prompt.

Reverting, however, to the report under review we find that as regards the European army Bengal has of the four commands the highest daily sick- and death-rates. The Madras command is the healthiest and its death-rate is not much more than half that of Bengal. 54 per cent. of the total sickness in the European army in India results from venereal diseases and ague. The chief cause of mortality is enteric fever, to which 43 per cent. of the total deaths were attributable in 1896. The death-rate from this fever among the native troops, on the other hand, is only 0·04 per 1000, as against 6·31 per 1000 among European troops. Under a short-service system there is a greater supply of susceptible material and this, of course, means an increased prevalence of the fever in question. Notwithstanding all the efforts which have been made in India to discover and to check its causes it must be confessed that the practical outcome of our efforts is very disappointing. What is a serious feature in the matter is the fact that the hill stations which are the sanatoria and health-resorts of the country have been seriously and [illegible] by affected with this scourge. At page 57 of [illegible] this interesting table is given of various hill st[illegible] in death-ratios of enteric fever in them resp[illegible] common belief, and probably a well-found[illegible] one, that this fever tends to increase with length of occupation. In the case of most of these stations bad years have occurred at more or less irregular intervals, but for some time past, in the case of Dagshai, Subathu, and Cherat, the bad years have been very close together. Special investigations, we are told, have been made into the sanitary conditions of those stations and generally suspicion has been thrown upon the water-supply.

As illustrative of the altered condition of the European force in India as regards married soldiers we may call attention to the table at page 63 which shows that the average annual strength of children from 1886 to 1895 was 59,695, whereas in 1896 it had fallen to 5790. The death-rate per 1000 among children, it may be mentioned, is very high and has decreased but slightly, being 45·60 per 1000 in 1896, as against 46·72 per 1000 for the period 1886–95.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary meeting of the Comitia was held on Jan. 26th, Sir SAMUEL WILKS, Bart., President, being in the chair.

The following gentlemen were admitted Members of the College: Dr. Henry John Davis, Dr. Francis Edward Fremantle, Dr. Thomas Jeeves Horder, Dr. Laurence Christopher Panting, Dr. Sidney Herbert Perry, Dr. Reginald Pratt, and Dr. George Edward Rennie. Licences were granted to 122 gentlemen who had passed the required examinations and several Diplomas in Public Health were granted conjointly with the Royal College of Surgeons.

The PRESIDENT announced that the Swiney Prize for the best work on jurisprudence, which is given every five years, has this year been awarded to Dr. Dixon Mann for his work on Medical Jurisprudence. He also drew attention to a photograph of the portrait of Dr. Chambers, the original having been painted by Holbein. The photograph had been obtained through the kindness of Mr. Dodson of the British Museum, to whom the thanks of the College were tendered. The name of Dr. Chambers stands first on the roll of the College.

The Bissett Hawkins medal for investigations in hygiene was exhibited "On one side is an excellent likeness of the founder, whilst on the reverse is a representation of Æsculapius and Hercules, with the motto, "Ob sedulo cultam medicinæ civilis disciplinam."

Several communications addressed to the College were received, amongst which were the following :—

From the Secretary of the Royal College of Surgeons of England, respecting proceedings of their Council on Dec 8th, 1898, and Jan 12th, 1899

From the Queensland Public Library, thanking the College for a gift of books

From Sir Hermann Weber commemorating by a gift to the College the renewal of his diploma after 50 years by the University of Bonn The PRESIDENT proposed a vote of thanks to the donor, which was unanimously adopted, and Sir DYCE DUCKWORTH (the treasurer) announced that the gift would be placed to the College Endowment Fund.

From the President of the General Medical Council, asking the opinion of the College on a proposal of the Council to obtain additional penal powers, and submitting clauses for amending the Medical Acts with that view There were two propositions—(1) That if a medical man be deemed guilty of any offence that might cause him to have his name erased from the Medical Register the Council should have the power of erasing his name for a limited period, and that afterwards under certain circumstances his name might be returned to the Register ; (2) that as long as the erasion remained in force he should *ipso facto* be deprived of all his medical diplomas The PRESIDENT considered the second proposal so serious that counsel's opinion had been taken to the effect that the College should not give their consent to the proposal Dr LIVEING (Registrar) proposed and Sir DYCE DUCKWORTH seconded a resolution to the effect that the first proposition of the General Medical Council should be approved of by the College, whilst the second should not This was adopted

From the Chairman of the Education Committee of the General Medical Council, seeking information as to the desirability of raising the standard of preliminary education for medical students to that of the senior local and higher grade examinations On the proposition by Dr. LIVEING, seconded by Sir DYCE DUCKWORTH, the consideration of the matter was referred to the Committee of Management.

From the Secretary of the Seamen's Hospital Society on behalf of the General Committee, having reference to the School of Tropical Medicine with printed correspondence It was resolved on a motion proposed by Dr LIVEING, seconded by Dr DICKINSON, that the correspondence should lie on the table

Communications were received from two Members resigning their Membership.

Dr Thorowgood, Dr Bradbury, Sir John Williams, and Dr. Stephen Mackenzie were elected Councillors, Dr. Norman Moore was elected a member of the Library Committee, Professor Clifford Allbutt was appointed an Examiner in Medicine, and Dr J F Payne was elected Librarian

The revised report of the Leprosy Committee was accepted (see THE LANCET, Dec 10th, 1898, p 1572) on the proposition of Sir WILLIAM GOWERS, seconded by Dr CURNOW A report was received, dated December 1st, from the representative of the College on the General Medical Council

The annual and quarterly reports of the Finance Committee were received and adopted A report, dated Dec 12th, was received from the Committee of Management in reference to the instruction in chemistry, physics, practical chemistry, and biology The Committee had decided "that after receiving the written opinion of the several medical schools, the Committee of Management recommend to the Royal Colleges that in Clause 3 on page 4 of the Regulations the words between the brackets be omitted The clause will then be the same as before the alteration "

It was proposed by Dr NORMAN MOORE and seconded by Dr CURNOW that the report be adopted

Dr WASHBOURN proposed and Dr STARLING seconded an amendment, "that the report be referred back to the Committee of Management "

In the discussion which followed Dr ISAMBARD OWEN, Dr F J SMITH, Dr CALVERT, Dr L E SHAW, and Dr. H J CAMPBELL took part.

The PRESIDENT having put the amendment it was declared lost by 10 to 23 The original proposition was then put and carried by a large majority.

After some further routine business the President dissolved the Comitia.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6762 births and 3716 deaths were registered during the week ending Jan. 28th The annual rate of mortality in these towns, which had declined in the three preceding weeks from 19 1 to 18 2 per 1000, further declined last week to 17 0 In London the rate of mortality was 15 8 per 1000, while it averaged 17 7 in the 32 provincial towns The lowest death rates in these towns were 12 0 in West Ham, 12 9 in Cardiff, 13 5 in Croydon, and 14 4 in Halifax ; the highest rates were 22 2 in Sunderland, 22 6 in Preston, 23 3 in Liverpool, and 23 8 in Plymouth The 3716 deaths in these towns included 329 which were referred to the principal zymotic diseases, against 352 and 380 in the two preceding weeks ; of these, 84 resulted from whooping-cough, 71 from diphtheria, 67 from measles, 40 from "fever" (principally enteric), 37 from scarlet fever, and 28 from diarrhœa No death from any of these diseases occurred last week in Plymouth , in the other towns they caused the lowest death rates in Preston, Derby, Wolverhampton, and Oldham, and the highest rates in Salford, Gateshead, Halifax, Sunderland, and Nottingham. The greatest mortality from measles occurred in Nottingham, Bolton, and Manchester, from scarlet fever in Gateshead ; from whooping cough in Huddersfield, Bristol, Halifax, Croydon, Birkenhead, and Sunderland , and from "fever" in Halifax The 71 deaths from diphtheria included 31 in London, eight in Leeds, six in Sheffield, four in Liverpool, four in Hull, three in West Ham, three in Swansea, and three in Leicester. No fatal case of small pox was registered last week in any of the 33 large towns, and no small pox patients were under treatment in any of the Metropolitan Asylum Hospitals on Saturday last, Jan. 28th The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2679, against numbers declining from 2939 to 2749 on the four preceding Saturdays ; 220 new cases were admitted during the week, against 291, 220, and 249 in the three preceding weeks The deaths referred to diseases of the respiratory organs in London, which had been 363 and 295 in the two preceding weeks, further declined last week to 266 and were 314 below the corrected average The causes of 54, or 1 5 per cent , of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in Portsmouth, Cardiff, Bolton, Newcastle-upon Tyne, and in ten other smaller towns ; the largest proportions of uncertified deaths were registered in West Ham, Leicester, Nottingham, Burnley, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 21 7 and 21 3 per 1000 in the two preceding weeks, rose again to 22 1 during the week ending Jan 28th, and exceeded by 5 1 per 1000 the mean rate during the same period in the 33 large English towns The rates in the eight Scotch towns ranged from 18 3 in Paisley and 20 2 in Edinburgh to 23 9 in Greenock and 24 9 in Leith The 676 deaths in these towns included 30 which were referred to whooping cough, 15 to measles, 14 to scarlet fever, nine to diphtheria, five to "fever," and five to diarrhœa In all, 78 deaths resulted from these principal zymotic diseases, against 88 and 94 in the two preceding weeks These 78 deaths were equal to an annual rate of 2 6 per 1000, which was 1 1 above the mean rate last week from the same diseases in the 33 large English towns The fatal cases of whooping-cough, which had been 35 and 34 in the two preceding weeks, further declined to 30 last week, of which 12 occurred in Glasgow, nine in Edinburgh, and four in Dundee The 15 deaths referred to measles showed a decline of four from the number in the preceding week, and included seven in Glasgow, four [illegible] three in Aberdeen. The fatal cases [illegible] declined from 13 to six in the [illegible] to 14 [illegible]k, of [illegible] in [illegible]

The nine deaths from diphtheria corresponded with the number in the preceding week, and included four in Glasgow and two in Leith. Of the five fatal cases of "fever" two occurred in Edinburgh and two in Leith. The deaths referred to diseases of the respiratory organs in these towns, which had been 156 and 153 in the two preceding weeks, rose to 161 last week, and were 69 above the number in the corresponding period of last year. The causes of 31, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased in the three preceding weeks from 26·7 to 28·6 per 1000, declined again to 24·9 during the week ending Jan. 28th. During the past four weeks the rate of mortality has averaged 26·8 per 1000, the rate during the same period being 17·5 in London and 23·1 in Edinburgh. The 167 deaths registered in Dublin during the week under notice showed a decline of 25 from the number in the preceding week, and included 11 which were referred to the principal zymotic diseases, against 10 in each of the two preceding weeks; of these, five resulted from whooping-cough, five from "fever," and one from scarlet fever, but not one from small-pox, measles, diphtheria, or diarrhœa. These 11 deaths were equal to an annual rate of 1·6 per 1000, the zymotic death-rate during the same period being 1·4 in London and 3·3 in Edinburgh. The fatal cases of whooping-cough, which had been three and four in the two preceding weeks, further rose to five last week. The deaths referred to different forms of "fever," which had been one and three in the two preceding weeks, further increased to five last week. The mortality from scarlet fever corresponded with that recorded in the preceding week. The 167 deaths in Dublin last week included 21 of infants under one year of age and 30 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a marked decline from the numbers recorded in the preceding week. 11 inquest cases and 10 deaths from violence were registered; and 64, or more than a third, of the deaths occurred in public institutions. The causes of eight, or nearly 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

FLEET SURGEON MICHAEL JOSEPH MCCARTHY has been placed on the retired list of his rank at his own request.

The following appointments are announced:—Staff Surgeons: H. W. Macnamara to Chatham Hospital; and J. L. Barrington to the *Boscawen*. Surgeons: C. J. E. Cock to the *Revenge*; W. J. Codrington to the *Raleigh*; and W. R. Knightley to the *Excellent*.

ROYAL ARMY MEDICAL CORPS.

The under-mentioned Lieutenants are seconded for service with the Egyptian Army: S. L. Cummins and H. G. F. Stallard. Majors H. H. Johnston, C. E. Nichol, and T. Daly, and Captain G. S. Crawford have arrived home from India in the transport *Simla*.

THE COMPETITIVE EXAMINATION FOR WOOLWICH AND SANDHURST.

The *Fortnightly Review* for last month contains a trenchant criticism on the system of competitive examinations as carried out at the present time for candidates for army commissions. The subject is discussed in its physical, educational, moral, and social bearings, and the writer has a good deal to say with which most people will agree, but we are afraid that the constructive part of his article will be found to contain much that is impracticable. The paper is well worth reading and a good many parents at any rate will heartily concur with its spirit. It is no doubt true that the present system of training of young candidates for army appointments violates many of the best-established principles of the laws of health; that the course of preparatory study is, educationally speaking, unsound; that the future prospects in life of the large mass of unsuccessful candidates are injuriously affected because it is often too late for the failures to take up and be trained for another career; that the life of "grind" for the army is far from being the ideal one for a growing lad; and that the long hours of study and anxiety to succeed takes a good deal out of the freshness and brightness of life and with a good many of them only leaves behind a thorough distaste for books. The tests for purely mental qualifications in these examinations are overdone. We have always contended that a competitive examination should be competitive all round and that there should be some physical tests, so that the possessor of superior physical qualities should reap the benefit of them in the shape of marks. We consequently agree with the views of the writer in the *Fortnightly Review* in this respect which he fortifies by a reference to Mr. Francis Galton's papers on the subject. The difficulty, however, is how to apply the principle in practice.

THE UGANDA HONOURS.

The military operations in the Uganda Protectorate have been of an exceptionally trying nature and the officers who have taken part in them well deserve their honours. In the "Papers Relating to Recent Events in the Uganda Protectorate" which have been recently published it will be found that Captain G. S. McLoughlin, R.A.M.C., is specially commended for his services and that the gallantry and great devotion to duty displayed by Captain J. D. Ferguson, R.A.M.C., are fully recognised.

DEATHS IN THE SERVICES.

Staff Surgeon Henry Stewart Jackson, at his residence, Royal Naval Hospital, Chatham, on Jan. 23rd, at the age of 41 years. He studied at Trinity College, Dublin, and the Royal College of Surgeons in Ireland, subsequently taking his Fellowship degree. He entered the Navy as Surgeon in 1882 and was promoted to the rank of Staff Surgeon in 1894.

Deputy Inspector-General Mark A. Harte, aged 59 years. He joined the service in 1861, became Staff Surgeon in 1875, and Fleet Surgeon in 1882. He retired in 1893.

VENEREAL DISEASE AND THE ARMY IN INDIA.

By a general order recently issued by the Commander-in-Chief in India medical inspection of British soldiers serving in India for the purpose of detecting and checking the spread of contagious disease is to be made and punishment enforced for concealment of such disease. Inspection will take place from time to time without warning.

A dinner was given by the medical officers of the Mediterranean Fleet in honour of Surgeon W. J. Maillard, R.N., M.D. Lond., V.C., at the Malta Union Club on Jan. 13th.

Correspondence.

"Audi alteram partem."

THE DEATH-RATE AND THE WATER-SUPPLY.

To the Editors of THE LANCET.

SIRS,—In the coming Session of Parliament there will be a large crop of Bills for water-supplies. The advocates of moorlands, lakes, chalk springs, and rivers will contend in the committee-rooms over their pet schemes. It may therefore be interesting to your readers to compare the death-rate from fever for the first three-quarters of 1898 with the same period of 1897 in the principal cities of England and Europe. The death-rate has been computed, to avoid decimals, at per 1,000,000 living; those who prefer to consider the question at a rate of per 1000 will find it only necessary to shift the decimal point three spaces to the left (see the table).

One cannot help being struck with the uniformity of the incidence of the fever death-rate for 1897 and 1898 in the same towns. In some towns fever appears to be endemic, whilst in others it is reduced to insignificant numbers. Belfast had during this period a far higher death-rate from fever than any other town in Europe. Belfast, Manchester, Glasgow, Liverpool, and Sheffield obtain their water from moorlands and lakes; nevertheless, the fever-rate is very high.

The year 1898 was remarkable for the small amount of percolation and for many weeks there was absolutely none, consequently it was not surprising to find that in Hull, Portsmouth, Bristol, Brighton, and Croydon—towns which derive their supply from the chalk—the mortality from fever was less than in 1897, but we must expect on the rising of the springs after the late heavy rains that during the next three months there will be a corresponding rise in the fever death-rate. For instance, in the December quarter the death-rate from fever in Croydon went up to 64 per 1,000,000, which is more than two and a half times the other three quarters. Water which has been exposed to air and light for a considerable time and then efficiently filtered is improved in quality, consequently London, Paris, Berlin, Copenhagen, Cologne, Hamburg, Nuremberg, Dresden, Altona, and Vienna have had a very low fever death-rate. On the other hand in the limestone districts of Lenz, Rheims, Metz, Prague, and where the water is obtained from shallow wells, as in the highly cultivated districts about Malines, Bruges, and Namur, the mortality has been excessive owing to pollution of sub-soil water. Antwerp is a good illustration of a town whose supply which is derived from a highly polluted stream (a tributary of the Scheldt) has after treatment by passing through spongy iron and sand filters become a good wholesome water, with a corresponding low fever death-rate.

—	Source of supply.	Death-rate from fever, Jan. 1st to Oct. 1st, 1898.	Death rate from fever, Jan. 1st to Oct. 1st, 1897.
GREAT BRITAIN:—			
Belfast	Moor.	1667	955
Dublin	Mountain lake.	420	290
Norwich	Chalk.	197	182
Salford	Sandstone and moor.	190	210
Glasgow	Moor.	184	133
Liverpool	"	172	146
Birmingham	Wells, red sandstone.	168	130
Sheffield	Moor.	160	182
Manchester	"	133	110
Hull	Chalk.	114	159
Portsmouth	"	112	165
Bradford	Moor.	90	82
Leeds	"	89	94
Leicester	Upland.	68	122
London	Chalk and river.	67	79
Brighton	Chalk.	66	123
Bristol	"	56	66
Croydon	"	24	75
FRANCE:—			
Havre	Chalk.	509	277
Rheims	"	270	137
Paris...	Well and river.	62	71
Lille	Chalk.	55	27
GERMANY:—			
Metz...	Chalk.	136	250
Cologne	River.	63	69
Hamburg	"	39	42
Berlin	Sand.	38	37
Nuremberg	River.	35	18
Dresden	"	24	22
Altona	"	18	52
Munich	"	12	55
Frankfort-on Main	"	12	37
BELGIUM:—			
Malines	Shallow well.	440	351
ruges	"	433	200
amur	"	399	434
Brussels	Moor.	110	161
ntwerp	River.	71	112
Liege	Limestone.	66	102
HOLLAND:—			
Rotterdam	Sand.	102	69
Amsterdam	"	82	13
The Hague	"	41	42
DENMARK:—			
Copenhagen	Sand.	56	45
SWEDEN:—			
Stockholm	Mountain.	75	41
Gothenburg	"	9	131
AUSTRIA:—			
Lenz	Chalk.	385	290
Budapest	Wells and river.	168	132
Prague	Limestone.	159	202
Brunn	"	147	69
Vienna	River.	46	35

Great Britain cannot pride herself on being the leader of sanitary progress. Taking 100 per 1,000,000 living as a standard for fever mortality, I find that 13 out of the 22 towns were in excess, whilst on the Continent only 17 out of 51 towns exceeded that figure—a fact not creditable to the Health Department of the Government. In Germany sanitation has progressed by leaps and bounds, with the result of a marked improvement in the death-rate from preventable disease. The Imperial Government has not been hampered by any motives of vote-catching or consideration for the scruples of the conscientious objector.

The reckless manner in which the Local Government Board have in the past sanctioned sewage-farms and cemeteries upon permeable and water-bearing strata from which increasing populations are either at the present time or will in the near future draw their water-supply must inevitably tend to increase the severity of the constantly recurrent outbreaks of preventable disease. Every local authority or water company should be compelled by law to send a monthly chemical and bacteriological analysis of every source, if more than one, of their supply to the Local Government Board who should report the results annually to Parliament and also to the councils within their area of supply. Some sources of supply now in use would be condemned and preventable disease diminished.

I am, Sirs, your obedient servant,
Carshalton, Jan. 15th, 1899. A. H. SMEE, L.C.C.

AN ALCOHOL BATH FOR BURNS.

To the Editors of THE LANCET.

SIRS,—Dr. Theodore Zangger's article in THE LANCET of Jan. 28th describing the use of rectified spirit as a lotion in certain inflammatory conditions where the skin is unbroken is of interest and, I think, of importance. Dr. Zangger's explanation of the benefit resulting is that it is due to a penetration of the skin by the alcohol vapour which is thus supposed to reach and destroy the organisms which are the cause of the localised inflammation. Whether alcohol either as liquid or vapour can destroy the vitality of a septic organism without at the same time also coagulating the protoplasm of the leucocyte or the proteids of the plasma in which it lies is to be very much doubted. One is inclined to attribute the benefit of such a dressing largely, if not entirely, to its frigorific effect. The author, moreover, makes a special point of the necessity for apertures in the protective covering of the dressing.

I have for some time entertained the belief, or rather the hope, that alcohol might have a more useful application in the treatment of burns. The idea suggested itself to me in connexion with a very trivial circumstance. Being in a small hill station in India I burnt the tip of my finger severely. Whisky was the only application at hand and immersing my finger in a vessel of it I was surprised to find a speedy relief from pain. The finger was kept in the spirit for an hour or so and next day the patch of burnt skin separated itself and the cure was complete.

The mortality from burns seems to be very much what it was ten years ago and there seems to have been no material change in methods of treatment, yet the infant who has been burnt or scalded remains a perennial spectacle at all our hospitals. There are certain considerations which make it appear that a more or less continuous bath of alcohol would be an appropriate treatment for a burn. Alcohol is a powerful germicide. We may expect that the suppuration following a severe burn would be kept within aseptic limits and sapræmia avoided. Alcohol coagulates the proteids of serous exudation and should therefore coat a burnt surface with a firm pellicle. It will also coagulate the protoplasm of exposed and injured nerve fibrils with the result that almost all the pain [illegible] at [illegible] surface should be a comparison is wholly misleading because the outbreaks of plague do not develop according to the season or, at any rate, exactly at the same period of each year. The only just comparison is to compare the development of one outbreak with that of another whatever the dates of the year may be, the only difficulty being to fix the corresponding times of their commencements.

The following table gives the mortality in Bombay city of the various castes during the week ending Jan. 10th :—

	Caste.	Population.	Total deaths.	Plague deaths.
Hindus.	Jains	25,225	37	13
	Brahmins...	37,932	27	9
	Lingaits	784	2	1
	Bhatias	7,891	6	—
	Hindus of other castes ...	451,465	640	153
	Hindus (low caste)	45,169	18	20
	Musalmans	155,101	200	12*
	Parsees	47,458	35	5
	Jews	5,021	3	1
	Native Christians...	29,712	30	4
	Eurasians...	4,330	3	—
	Europeans	11,290	4	1
	Negro Africans	146	2	—
	Buddhists...	190	—	—
	Other and unknown castes..	—	4	1
	Totals...	821,764	1,011	220

* This item is probably very fallacious. The Musalmans largely employ quacks and their females seldom see anyone qualified to render a trustworthy return. Moreover, when plague is known a false report is made in order to avoid subsequent interference with their extreme domestic privacy. No death certificates being required the friends give any cause for death they choose. Concealment of plague is therefore especially common in this caste.

As showing the difference in plague administration the health officer for Bombay records that of the 220 cases of plague recorded in the past week only 85 were removed to hospital and only 284 contacts were segregated. During the week 7691 houses were inspected and of these 564 were disinfected and 67 vacated.

Reports have been circulated during the last few days of a recrudescence of plague in Calcutta and it appears that there have been several suspicious cases lately and that two at least have been proved more or less conclusively to be plague. The protection afforded by inoculation at Gaday is remarkable, as the following figures show.

—	Population.	Total attacks.	Total deaths.
Once inoculated ...	3676	8	4
Twice inoculated ...	6706	3	2
Uninoculated	8726	118	74

Objections to all these published records are that the populations are estimated by the last census and from various causes may be very wide of the mark, and that there being no proper identification of inoculated persons reliance can only be placed on verbal statements or the production of a (possibly false) certificate.

The Plague Commission has been sitting at Agra. The only evidence of importance is that of Mr. E. H. Hankin, Chemical Examiner and Bacteriologist to the Government. It is reported that he had experimented for several months with water, clothes, human dejecta, and dust of floors in plague-infected houses without discovering the plague microbe. He had obtained microbes from mud appearing in their microscopic characters to be plague microbes, but they were really not so. He had found the plague bacillus in the nasal secretions of a monkey which when injected into the noses of mice killed them. He is reported to have said that no regular test for the plague microbe had been discovered. He advocated burning the huts of villages or the burning of the earth of the floors.

Jan. 13th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Death under Chloroform.

A REGRETTABLE death under chloroform occurred at the General Hospital on Jan. 27th. A man, aged 41 years, came in for the removal of a sebaceous cyst from his neck below the right ear. Chloroform was given by one of the house-surgeons, the man struggled for a time, and suddenly his heart ceased to beat. A necropsy made by the police surgeon showed evidence of some bronchitis and old pleural adhesions, with alcoholic indications in other parts. An inquest was held subsequently and a verdict in accordance with the medical evidence was returned. I understand that there are rules laid down by the medical committee of the hospital as to the administration of ether as the routine anæsthetic and as to the presence of the senior resident surgical officer on such occasions. The authorities are mindful of the risks in this direction and some time ago appointed two anæsthetists to the hospital. A certain number of cases necessarily occur in their absence when the administration is conducted by one of the resident staff, hence the importance of recognising the precautionary rules and the responsibility in acting upon them.

The Children's Hospital.

The thirty-seventh annual meeting of this institution was held on Jan. 23rd. The report stated that the number of in-patients treated during 1898 was 949, as against 919 the previous year. The out-patients numbered 13,445, against 13,009. The detention-rate was 19·9. The cost of the patients' maintenance was 3*s.* 2*d.* and the officers 7*s.* 5½*d.* per head per week. The total expenditure amounted to £4999 1*s.* 7*d.* The income unfortunately had fallen off, the subscriptions having diminished by £64. Some increase in the size of the out-patient rooms is considered to be necessary and a scheme for enlargement was submitted. It was stated that the lease of the building had 20 years only to run and that provision must be made to meet this contingency. Various donations were promised and votes of thanks passed.

Grocers and Bakers on Self-raising Flour.

A deputation from the Grocers' Association waited upon the Health Committee on Jan. 16th relative to the sale of self-raising flour. For some years this flour has been sold by grocers, but of late prosecutions have been instituted and fines imposed after evidence that there was a certain amount of maize flour mixed with it. The deputation wanted to know if the committee would fix a standard of the quantity of maize flour which might be used—say, to allow 5 per cent. of farinaceous substance other than wheaten flour. The chairman of the Health Committee said that they could not give any undertaking to this effect and that they must carry out the intention of the Food and Drugs Act, but the views of the deputation would have consideration. Following this on Jan. 25th a deputation from the Master Bakers' Association interviewed the Health Committee. They stated that the bakers considered the addition of maize flour to be unnecessary and that in their daily practice they made self-raising flour by simply adding carbonate of soda, tartaric acid, and cream of tartar to wheaten flour sufficient to give it the effervescent property. The chairman of the Health Committee pointed out that all they had to do was to see that the purchaser got what he paid for. It will be interesting to note the future development of these rival claims. There does not so far appear to be very much amiss in the way of adulteration, the maxim to be followed being one of a certain advertised product—if you ask for a particular thing see that you get it.

Death of James Yeomans Totherick, M.D. St. And.

I regret to announce the death of Dr. Totherick which occurred on Jan. 26th at his residence, Park Vale, Wolverhampton. Of Scotch descent, the son of a Methodist minister, Dr. Totherick was educated at the University of St. Andrews where he obtained the M.D. degree in 1862. After this he settled in practice at the village of Sudbury, in Derbyshire, and about 25 years ago went to Wolverhampton. Here he was appointed one of the physicians to the hospital, a post he held until his death. Dr. Totherick was a man of cultured tastes, fond of literary pursuits, finding relaxation from his professional duties among those of similar habits. He took an interest also in public matters, becoming a member of the board of guardians and at one time chairman of that body. Of somewhat reserved manners and critical temperament his qualities were best appreciated by those who knew him best, and to these he was an interesting companion and a good friend. His professional work was performed with careful and attentive consideration. For a year or two past his health has been failing, the symptoms being attributed to a form of pernicious anæmia. Travel and change of scene and surroundings failed to give him permanent relief and towards the end he declined rapidly. He leaves a widow but no family.

Jan. 31st.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Liverpool Royal Infirmary.

THE annual meeting of the trustees of the Royal Infirmary was held on Jan. 30th. The treasurer said that at no period of the history of the infirmary either in the old or in the new building had so much work been done as in the year just closed both as regards in-patients and out-patients. The number of casualties treated had reached the large total of 17,906. The expenditure on the charity had been £13,668 at a cost of £51 9*s.* 4*d.* per bed occupied. The deficit was £2089. Some permanent additions and improvements had been found necessary. More suitable lavatory accommodation for the increasing number of students in connexion with the medical school had been provided at a cost of £350. Financially the year had been disappointing Only one considerable sum from the precarious source of legacies had been recorded, and had it not been for the endowment of a bed by his widow in memory of the late Dr. James Turnbull, a former physician to the infirmary, donations would have been also very meagre. Eight beds were now endowed from donations of £1000 each. The maintenance fund had been drawn upon during the year to the extent of £2749 and the committee deplore the gradual depletion of that fund. The debt on the working expenses now stands at £2089. More patients had been sent to the Woolton Convalescent Institution and other sanatoria. A remarkable fact was elicited at the meeting that in the year 1821, when the permanent and floating population of Liverpool was estimated at 151,000, the subscriptions to the infirmary were £2105, whereas in the year 1898, when the population had increased to 668,545, the subscriptions were only £3200, a difference of only £350 as compared with 70 years ago. Two important changes had taken place during the year in the *personnel* of the honorary medical staff, the first being due to the death of Dr. John Wallace, the gynæcological surgeon, who was succeeded by Dr. T. B. Grimsdale. Mr. Frederick W. Lowndes's period of office as surgeon to the Lock Hospital having expired he was appointed consulting surgeon. To ensure more efficient working of the outdoor department two casualty officers have been appointed who also take charge of the ambulance. Mr. Ralph Brocklebank was re-elected honorary treasurer, an office which he has filled for 20 years. The retiring President, Mr. John Brancker, made the customary donation of 100 guineas.

The New Medical School of University College and the Royal Infirmary.

The land upon which the old medical school buildings are erected has recently been transferred by the trustees of the Royal Infirmary, to whom it belonged, to the governors of University College. The land, consisting of 1800 square yards, together with the old buildings have been handed over to University College at a peppercorn rent for a term of 999 years on the condition that the medical school be rebuilt on plans approved by the committee of the Royal Infirmary and that the new building be always used as a medical school in connexion with the Royal Infirmary and that it be maintained by University College.

University College, Liverpool Biennial Dinner of the Medical Faculty

The medical faculty of University College held their biennial dinner at the Exchange Station Hotel on Jan. 28th under the presidency of Dr. Richard Caton, the chairman of the faculty. The invited guests included the Lord Mayor, the Rev. S. A. Thompson-Yates (the donor of the Thompson-Yates Laboratories in University College), Sir John Brunner, Bart., M.P., Mr. Alfred L. Jones, the Stipendiary Magistrate, the City Coroner, Principal Glazebrook, Mr. Ralph Brocklebank (treasurer of the Royal Infirmary), &c. The toast of the "City of Liverpool" was proposed by Professor Strong and replied to by the Lord Mayor. "The Medical Charities of Liverpool" was proposed by the chairman and responded to by Sir James Poole and Mr. W. P. Hartley. The toast of "University College" was proposed by Mr. Ralph Brocklebank and replied to by Sir John Brunner. The dinner was in every way a great success.

Feb. 1st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Report by Sir Henry D. Littlejohn on Pulmonary Tuberculosis in Edinburgh.

SIR HENRY LITTLEJOHN, as medical officer of health of the city, has drawn up a report on Pulmonary Consumption in Edinburgh. It begins by saying that the mortality from consumption has been decreasing as a result of improved hygienic surroundings and other causes. He gives a table of mortality from pulmonary consumption in two decades and contrasts it with the total mortality and the mortality from ordinary infectious diseases. From 1878 to 1887 the total death-rate per 1000 was 19 0, for phthisis 2·1, and for zymotic diseases 2·1; from 1888 to 1897 the total death-rate was 18·0, for phthisis 1·8, and for zymotic diseases 1·7. He then proceeds to consider the question: What can be done in a city like Edinburgh still further to lessen the ravages of this scourge? He considers this under a number of heads—1. The corporation must continue the improvement of insanitary areas. 2. He emphasises the necessity of regular cleansing and inspection twice weekly of common stairs in the poorer districts. He evidently dislikes the common stair and prefers the balcony system. 3 He advocates the use of sea-water for cleansing and watering streets and closes. He also advocates the establishment of baths for the poorest classes. 4. He wants handbills and notices posted to lessen the amount of spitting which is so prevalent in public places and public vehicles. 5. He wants various city agencies to distribute bills drawing attention to the danger of the expectoration from phthisical patients and he appends a form of handbill which might be issued. He then enters into a number of interesting statistics dealing with the mortality in the wards of the city, the age, sex, occupation, and class of house occupied by the victims. He further asks the question: Can the corporation interfere with beneficial effect in the course of this disease? and his answer is that he does not see how it can do so. He considers the question of parochial relief and thinks the parish council might get its rules relaxed by the Local Government Board and that it might also arrange to provide a certain amount of beds for the housing and nursing of cases which cannot be attended to at home. He concludes his report by considering the question of notification and he does not see his way to recommend its adoption mainly because of the expense it would entail. He estimates that there are 5000 cases of phthisis in the city He evidently thinks that as regards tuberculosis in cattle the next move cannot be made until Government takes the matter up.

Edinburgh Public Health Committee and Phthisis.

At a meeting of a sub-committee of the Public Health Committee of the Town Council it was agreed to have a conference with the councils of the Royal College of Physicians and the Royal College of Surgeons of Edinburgh, and the principals of the Veterinary Colleges on the treatment of consumption It was also decided that phthisis should be notified and that a circular should be issued containing suggestions and indicating precautions in cases of phthisis.

Gynæcological Appointments to Leith Hospital.

The managers of Leith Hospital have appointed Dr. Brewis and Dr. Haig Ferguson as gynæcologists to the hospital in place of Dr. Berry Hart who has resigned.

Lectures on Teratology and Ante-natal Pathology.

Dr. J. W. Ballantyne is to deliver six lectures on this subject at the University of Edinburgh on consecutive Fridays, beginning on Feb. 3rd. These lectures are delivered on the recommendation of the medical faculty and senators; a suitable recognition of the eminent position Dr. Ballantyne has made for himself in this department.

The Society for the National Registration of Plumbers.

On the evening of Jan. 26th a lecture was delivered in Edinburgh under the auspices of the Society for the National Registration of Plumbers by Dr. W. Leslie Mackenzie, medical officer of health of Leith, on the Hygienics of Diphtheria. The chair was occupied by the convener of the Public Health Committee of the Edinburgh Town Council.

University of St. Andrews.

At a meeting of the University Court held on Jan. 24th the court authorised the expenditure of £250 towards fitting up the new medical buildings and empowered the Business and Finance Committee to provide without delay such other fittings as might be necessary, the total cost not to exceed £1500. It was resolved to proceed at once with the erection of a physical laboratory. The court agreed to advertise for an external examiner in public health. Mr. G. S. Newth, F.C.S., F.I.C., Royal College of Science, South Kensington, was appointed an examiner in chemistry, and Mr. F. G. Proudfoot, M.A. St. And., M.B., C.M. Edin., Oxford, was appointed an examiner in materia medica. It was resolved to intimate to the Senatus Academicus that the court propose to appoint Mr. A. T. Masterman, B.A., D.Sc., to be lecturer on embryology. The court also sanctioned the appointment as from the commencement of next summer session of Mr. James Gray, M.A. St. And., M.B., C.M., F.R.C.S. Edin., as assistant to the professor of surgery in the University College.

Curious Action against a Medical Man.

The action brought against Mr. James Devon, medical officer of the Duke-street Prison, Glasgow, for alleged assault on an engineer who was at the time undergoing a sentence of imprisonment, has been dismissed with expenses against the pursuer. It will be remembered that the act complained of was the vaccination of the prisoner, and the medical officer was charged with misrepresentation and with the use of impure lymph and of an unclean instrument. The sheriff has found these charges to be unsubstantiated and has decided that as the pursuer offered no objection to the performance of the operation therefore no legal assault was committed.

Glasgow Eye Infirmary.

At the annual meeting of the subscribers held on Jan. 25th, Sir Jas. King, Bart., being in the chair, it was intimated that the increase in the number of both in- and out-patients had forced the directors to consider the question of enlarging the infirmary. At present it has not been decided whether the addition should be made to the older buildings in the East-end or to the larger and more recent hospital in Berkley-street. The report announced with regret the retirement of Mr. Munsie who has for many years acted as treasurer to the infirmary.

Glasgow University.

Negotiations have been in progress with a view to avoid a contest for the seat on the court rendered vacant by the death of the Rev. T. W. King. So far no agreement has been reached and it seems probable that a contested election will be inevitable. Mr. King belonged to the so-called "university reform" party which by an amicable arrangement has for some time divided the representation with their more conservative opponents. No active steps have yet been taken in connexion with the vacant chair of Pathology but it is understood that there will be several local candidates. The salary attached to the chair is £1100, private practice being forbidden. The patronage is in the gift of a special board of curators four of whom are nominated by the University Court and three by the directors of the Western Infirmary. This arrangement ensures the election of the same individual both to the University chair and to the position of pathologist to the infirmary.

Feb. 1st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Dublin Metropolitan Technical School for Nurses.

THE annual meeting of the governing body of the above school was held on Jan. 20th, the chair being filled by Mr. R. L. Swan, President of the Royal College of Surgeons in Ireland. The honorary secretary read the report, from which it appeared that during the past year 124 candidates, from the five Dublin hospitals which coöperate with this institution, had attended the lectures of Dr. E. MacDowel Cosgrave on anatomy, physiology, and hygiene. The education of nurses is assuming additional importance in Ireland owing to the fact that many appointments are likely to be made under the new Local Government Board regulations.

Death of Sir John Nugent.

Sir John Nugent, who was widely known in Ireland for many years, died in London on Jan. 26th, having reached the venerable age of 95 years. Sir John Nugent was long ago medical attendant to Daniel O'Connell who had a very high opinion of his ability. He subsequently became a Commissioner of Lunacy in Ireland and his reports as Inspector of Asylums were recognised as especially valuable. The late Sir John Lentaigne was associated with him in this work for many years.

Irish University Education.

The question most discussed in Ulster at present is Mr. Balfour's proposed settlement of the difficult question of Irish university education. Briefly put, the Leader of the House of Commons proposes to establish two new teaching universities—one in Dublin and one in Belfast—on precisely similar lines. The one in Belfast is to absorb the existing Queen's College; the one in Dublin would probably have its headquarters in the present Royal University which would then cease to exist. Both universities are to be subject to the Test Acts; all scholarships and fellowships paid out of public funds are to be open to competition irrespectively of creed. No public endowment is to be given to chairs in Philosophy, Theology, or Modern History; professors are to have a right of appeal against unjust dismissal and the number of clergy on the governing board is to be strictly limited. In Ulster there are many who oppose Mr. Balfour's scheme as they conscientiously object to making education denominational, forgetting that even at the present time the Royal University is indirectly denominational; but, on the other hand, there is an increasing body of thoughtful men in Ulster who feel that Mr. Balfour has made out a most convincing case for his proposals and who argue that the time has come to make an attempt to settle this vexed Irish question. Those who are personally engaged in college and university work in Ulster are largely in favour of Mr. Balfour's scheme. They believe that the time has arrived for a teaching university, "properly equipped," to be established in such a great centre as Belfast. They fail to see why Ulster students should, after receiving all their education in that city, be compelled to go to Dublin to be examined for degrees in the various faculties of the Royal University. There might in former years have been some ground for this arrangement, but it must be conceded that all this has changed. Belfast has grown to be a city larger in population than Dublin and educational matters have made enormous strides in that city where there is now quite a number of educational institutions. In Queen's College there is an Arts Faculty, a school of engineering, and a Faculty of Law, all doing admirable work. There is also a very large medical school whose students form more than one-half of all those who graduate in medicine in the Royal University. The Queen's College in Belfast has been keeping well abreast of recent scientific advancements, as is evidenced in the very modern chemical, physiological, and pathological laboratories which were formally opened two years ago by Lord Lister on the occasion of the jubilee of the College. There are excellent special hospitals of all kinds in Belfast and at the present moment the architect who designed the Birmingham Hospital is preparing plans of the new Royal Victoria Hospital towards the building of which—in commemoration of Her Majesty's jubilee—a sum of more than £100,000 has been contributed by the citizens who felt that the present old Royal Hospital was not equal to the increasing demands made upon it. There are thus ample opportunities for clinical teaching so essential to a medical school. I mention all these points to show that not only has the time come, but that matters are quite ripe for the establishment of a university in Belfast. It is surely time that Ulstermen had a university "fully equipped" in every faculty, suited, as Mr. Chamberlain believes such an institution should be, to the environment in which it is located—a university "that will train schools of competent men in all branches of knowledge that have any national importance." One thing, I think, all true lovers of education are agreed upon is that the present state of affairs is well-nigh intolerable. University education in Ireland may and, I believe, can be made better. At any rate, in the opinion of many it cannot be worse than at present in its practical working. Not only are all parties dissatisfied with the present arrangements, but the uncertainty as to what may be the ultimate outcome is doing incalculable mischief. Many graduates of the old Queen's University refuse to allow their sons to go to the Royal University as they fear it in turn may soon be defunct, and so at the present moment many of the Ulster youths are being sent out of the country for their university education. Mr. Balfour deserves the greatest praise for his courageous attempt to settle a question which has baffled so many statesmen. Those who object to his proposal to establish two more universities should recollect that at present there are but two in Ireland and that of these only one is a teaching body; while there are four in Scotland, and in England in addition to Oxford, Cambridge, London, Durham, Victoria, and Wales, Birmingham is likely soon to have a university. There are 15 in France and 21 in Germany. Whatever may be the ultimate issue of Mr. Balfour's proposals everyone in Ireland (where opinion is so divided) believes that he is influenced by the highest motives and the utmost sincerity in his desire to settle the question of Irish university education.

Medical Men and the New Urban Councils.

Last week I stated that the new rule issued by the Local Government Board, to the effect that no paid officer engaged in the administration of the Poor Relief (Ireland) Acts, 1838 to 1898, would be eligible to serve as a county councillor under the Local Government (Ireland) Act, 1898, would, if applied to county borough councillors, disqualify two members of the Belfast City Corporation—Alderman Bigger, M.D. R U.I, and Dr. John Barron. The town clerk has just received an intimation from the Local Government Board to the effect that their order does not appply to the councils of municipal boroughs and consequently I am glad to announce that the two medical gentlemen are not affected by it.

The Samaritan Hospital, Belfast.

At the annual meeting of the Samaritan Hospital held on Jan. 30th it was reported that during the past year 712 patients had been treated in the extern department while 194 had been admitted to the wards. 147 operations were performed (including 25 abdominal operations) with three deaths. A new operating theatre has been added. There is a balance of £200 on the wrong side, the subscriptions and donations for the year showing a decrease, while the household expenditure has increased. The new wing has enabled the surgeons to give relief to a greater number of sufferers. It has been decided to form a ladies' committee.

Jan. 31st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

A New Method of Purifying Air.

AT the meeting of the Academy of Medicine held on Jan. 24th M. Laborde, the head of the physiological department at the Faculty of Medicine, presented a report upon some work done together with M. Jaubert embodying a discovery which apparently possesses great practical interest. The report dealt with a chemical preparation which by one and the same operation removes the carbon dioxide from respired air as well as the watery vapour and other expired products and also restores the exact quantity of oxygen which has been used up. In a word, this substance by simple contact with respired air regenerates it completely and gives back all its primary properties. According to M. Laborde and M. Jaubert three or four kilogrammes of this substance allow a man to live 24 hours in a confined space without any renewal of the air from outside. Experiments made upon guinea-pigs shut up under bell glasses have been very satisfactory. Other experiments have been made upon human beings by means of a mask so constructed that it allows the passage of air, regenerated by means of M. Laborde's apparatus, to the respiratory tract. This discovery would appear to have a great practical use for persons obliged to work in irrespirable media, such as miners, firemen, sewermen, and divers. M. Laborde considers that his invention will also be applicable to submarine boats.

The Hygiene of Bakers' Ovens.

The Council of Hygiene has just come to a decision rendered necessary by certain cases of poisoning following upon the consumption of bread baked by certain bakers. A police regulation of 1877 had forbidden bakers and pastry-cooks to heat their ovens with wood which had been painted or treated in any way with chemicals. As a matter of fact, some 60 persons who lived in the same quarter and were supplied by the same baker were one morning very nearly poisoned. Examination of the oven and the dust from it revealed the presence of a large quantity of salt of lead. Little by little, however, the strict surveillance as to this point was relaxed, all the more easily because bakers began to use new ovens which were heated by a fire outside them, and as all danger appeared to be avoided by this fact both bakers and pastry-cooks heated their furnaces with any and every kind of wood. Naturally they took to the cheapest kinds and so used wood from old houses whether painted or not, old sleepers from the railway impregnated with creasote and sulphate of copper, and even disused blocks of wood paving. The new regulation of the Council of Hygiene demands the strict application of the old regulations, basing the claim on the fact that such wood as is now used may contain salts of lead, copper, or arsenic which are volatilised by the heat and deposited upon the floor or roof of the oven.

The Transmission of the Agglutinative Property in Typhoid Fever by Way of the Placenta.

At the meeting of the Hospitals Medical Society held on Jan. 13th MM. Mosso and Frenkel communicated a report on the above subject in which they drew the following conclusions: (1) the typhoidal agglutinative property can pass from the mother to the fœtus unaltered by way of the placenta; (2) this property is found in a full-time child when born of a mother who has suffered from typhoid fever during gestation; (3) more feeble from the beginning in the child than in the mother, it becomes progressively weaker after birth and appears to be a kind of passive loan arising from the filtration of agglutinative matters through the cellular barriers of the placenta; (4) the energy of the agglutinative powers in the mother and especially the length of time during which the agglutinative matters impregnate the placenta are important conditions of the transmission of the agglutinative powers from the mother to the child; and (5) the agglutinative powers of the mammary secretion as a rule are far weaker than those of the blood but in some cases attain a considerable magnitude—e g., as much as 1 in 100 The same two conditions—namely, energy and duration—which obtain as to the transmission of agglutinative powers by way of the placenta without doubt exist with regard to the transmission from nurse to suckling.

Conviction of a Medical Man for Illegal Practice.

On Jan. 2nd the Tribunal of Dieppe convicted a young medical man who, having finished his studies and being on the eve of sending in his graduation thesis, had seen some patients on behalf of one of his colleagues. He had also done some work for the Assistance Publique. He had only done what plenty of other young medical men do who see an advantageous opening and jump at it while losing no time in complying with the formalities of the last examination which are very tedious He had arranged for the publication and defence of his thesis The law allows for cases of this sort provided that the would-be practitioner applies to the Prefect for a permission which is granted provisionally for a term of three months. The tribunal, however, condemned this practitioner because he had not asked for this permission which, by the way, hardly anyone ever does ask for. The medical associations have been much moved by this underhanded severity, for the conviction stands as being for illegal practice. The severity shown in this case is all the more astounding when compared with the tolerance shown by the tribunals to bone-setters and quacks of all kinds who have carried on their "practice" for years in spite of the complaints made by medical associations. The most piquant feature in the case is that the practitioner being advised of his prosecution hastened to fulfil all the necessary formalities so that when he appeared in court to be condemned for illegal practice [illegible] ery [illegible] ector of medicine.

Jan. 31st.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Baths of Weissenburg.

THE large hotel of the baths of Weissenburg in the Simmen Valley near Thun (Bernese Oberland) which was burnt down last spring has been rebuilt and will be opened in May, 1899. The springs of Weissenburg which contain considerable amounts of carbonate and sulphate of magnesia and calcium are well known for their efficacy in phthisis.

Medical Students at Swiss Universities.

The number of medical students studying at the five Swiss universities steadily increases from year to year; it runs up to 1181 for the winter term, 346 of whom are ladies (mostly Russian, German, Austrian, and American). The medical faculty of Bâle numbers 126, Lausanne 158, Berne 240, Geneva 297, and Zürich 360.

Prevention of Infective Diseases.

Some years ago the sanitary authorities of Zürich in order to prevent the spreading of infective diseases urged the medical practitioners to supply themselves with linen coats easy to disinfect to be left outside the sick room of private patients. The authorities offered to disinfect these coats as soon as notice was given of the recovery of the patient or of the removal of the same to an infection ward, and also offered to restore the coat properly disinfected to the owner. As only a few of the Zürich practitioners availed themselves of this opportunity the sanitary authorities have taken one step more and an important one. Imitating the example of Lausanne they now offer on notification of any case of diphtheria or scarlet fever immediately to send a disinfected linen coat to the patient's house to be put on during the time of treatment free of charge. It is to be hoped that many medical men will now avail themselves of this opportunity of preventing the spread of infective disease. Typhoid fever and whooping-cough being not so easily transmitted by means of third persons if a due amount of necessary precaution is taken and measles and German measles being often very prevalent and not so dangerous these precautions have had to be limited to scarlet fever and diphtheria. This seems especially necessary in the latter case as a great many more cases are now treated at home since the antitoxin treatment in the earliest stage insures the same results as hospital treatment.

Zürich, Jan. 30th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The Florentine School: its New Clinical Buildings.

THE event of the week has been the opening on Jan. 23rd of the new clinical wards in the Hospital of Santa Maria Nuova—wards dependent on the Istituto di Studi Superiori, or school of pre-graduate and post-graduate instruction. In addition to these purely clinical accessions to its resources the Istituto has an Istituto Antirabico, inaugurated likewise on Jan. 23rd, and at last putting Florence on an equal footing with Milan, with Rome, and with Naples in dealing with hydrophobia prophylactically and clinically. Never to despair of Italy is the moral to be deduced from the event solemnised so impressively and so eloquently on Jan. 23rd last. In spite of Tuscany's brilliant record in the annals of the healing art her capital has been but ill provided with the means of clinical and laboratory instruction—the *personnel*, as is usually the case throughout Italy, being far superior to the *matériel.* Some eight years ago it was thought a mighty advance when Professor Federici, who held the chair of clinical medicine, had at his disposal two clinical wards, three rooms for laboratory work, and an amphitheatre for lectures. His not less able and accomplished successor Professor Grocco was barely installed in the clinical chair when he set himself to improve on this state of things. He found the whole teaching apparatus representing a money value of less than £80, and to-day, after six years of indefatigable appeals, canvassings, and personal contributions, he has raised the teaching resources of his chair to four clinical wards, comprising 70 beds, with four rooms for paying patients, accommodation for assistants, and laboratories for every department of pathological research (chemical, microscopical, and bacteriological) second to none in Italy and worthy to rank with those of the higher French or even German schools. Add to this the publication of a weekly clinical record embodying the best Florentine work, a reading-room where more than 60 journals in four languages may be consulted, and a library of 1100 volumes, and some notion will be formed of the accessions made to the resources of clinical teaching in Florence within six years. Nor is this all. An Istituto for the practice of the Pasteur methods in rabies has been opened contemporaneously with the new clinical wards and Professor Grocco is already laying the lines of a department for medical gymnastics (*iatro-meccanica* and Swedish massage), to be a *fait accompli* in two years, and a department for the preparation of "sieri curativi" (seratherapy in all its ramifications), to be completed in a few months. Thanks to the head of her clinical and consulting practice Florence will begin the twentieth century with a teaching equipment she has never yet known, and if her achievement has hitherto been so honourable in spite of every conceivable disadvantage, what may it not become when her students are put level with their contemporaries in the matter of facilities and resources hitherto denied them? It was this prospect that inspired Professor Grocco to one of the most glowing passages in his finely classical address to the great audience of Jan. 23rd last. Instead of the one "adjutant" and two assistants of his predecessor he has now, besides the "adjutant," 16 assistants, representing posts so eagerly coveted throughout Italy that this year he has had to refuse the application of more than 30 candidates from nearly every school. Phalanx after phalanx of well-trained workers are in this way sent forth annually to fill chairs, to act as *privat-docents*, and to serve in the various departments of hygiene, public, naval, and military. Florence, moreover, while not a university, but simply a training school, is also a resort [illegible]graduate study as is implied in the very title, "I[illegible] Studi Superiori," or, as Professor Grocco eloquent[illegible] they, her task is not only "di istruire i giovani per la [illegible], a di perfezionarli una volta laureati" (to prepare youths for graduation but to carry them towards perfection when they have graduated). "From my heart," he added, "I yearn for the day when, given a sufficient development and a sufficient endowment for every laboratory, there may be added to the class list of subjects for undergraduates a special class list for medical men 'perfezionandi' (to be perfected), so that the practitioners who wish to enlarge their theoretical and practical knowledge may really find in this faculty a well-devised and coördinated series of courses in lecture room and laboratory which may assist them in the attainment of their object. To no city is our 'pious wish' more appropriate than to Florence, the seat of delightful repose, the intellectual centre *par excellence.*" The entire discourse was worthy of the occasion and of its author.

Jan. 28th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Care of the Insane.

A LITTLE more than two years have elapsed since the institutions for the insane of New York city were transferred to the State and over three years have passed since the institutions in King's County became a part of the State hospital system. All of the insane, except those in private institutions, are now in well-organised and well-managed State hospitals and have the advantages of curative treatment. While the hospitals have been greatly improved during the past year in every respect the cost of administration has been greatly reduced, the per capita cost during that period being only $184.16—the lowest in the history of the State hospital system. Prior to 1893 the cost of caring for patients in the State hospitals averaged more than $222 per year, a reduction amounting to more than $38 per patient. How great this economy is can be readily appreciated when it is stated that there are nearly 21,000 insane in the State hospitals of New York at the present time. In other words, the expenditures during the past year were about $600,000 less than they would have been had the rate of 1893 prevailed. In every department of the State hospitals improvements have been made. The patients are better clothed, the buildings are better furnished, the sanitary arrangements are improved, and the food-supplies are better in all respects. Special care is now being given to the eyes and teeth of the patients. Large numbers of these unfortunate people have been greatly neglected in these respects in the past. With the improvement in the care of the insane during the past few years there was at first a considerable increase in the number of admissions, many people formerly preferring to keep their friends at home rather than risk their having to suffer in public institutions. It is believed, however, that the increase by reason of such causes has reached a maximum, as the figures tend to show that the tide is strongly setting the other way. For example, the net increase for the year 1895–96 was 653; for 1896–97, 813; while for the year just passed the net increase has dropped down to the unprecedentedly low figure of 634. Likewise in the matter of new admissions from homes for many years prior to 1895–96 there had been a marked increase every year over the preceding year. In 1895–96 the new admissions were 4688, while in 1896–97 they dropped down to 4370, and during the past year the number has remained substantially the same, while from the experience of former years an increase might have been expected, both on account of the increase of population and for other reasons which were formerly in operation. This all tends to show that insanity is not on the increase, as is popularly supposed. This has been somewhat hastily assumed to be the case because the increase of the insane has been greater than the increase in the population, people not reflecting that as institutions improved friends were more and more willing to trust their relatives to the care of the State hospitals. The rate of recovery has also increased. In 1895–96 it was 948, in 1896–97 it was 951, while during the past year it gained nearly 10 per cent., 1018. This is really the crucial test of the whole system and shows the advantage of transferring the institutions of the County of New York and King's County to the care of the State. It is quite likely that this rise will continue It obviously must with better food, better clothing, better medical attendance, and better opportunities for amusement and recreation. Excellent training schools for nurses in State hospitals have been established throughout. All candidates are now obliged to pass a uniform examination on the same day. A graduate of a training school receives a considerable increase in wages and this conduces to the improvement of the service in every way. By this means experienced employés are obtained and the patients reap the benefit.

The Alien Poor sent to their Homes.

The State of New York has an officer devoted to searching out dependent persons who have come to this State from abroad. The following facts are gathered from his annual report. During the fiscal year ending Sept. 30th, 1898, there were removed 214 alien poor to their homes in different countries in Europe. They were found in almshouses, asylums and hospitals, and other charitable institutions in this State, and their condition at the time of landing in this country as brought out by the inquiries was as follows: crippled, 15; epileptic, nine; paralytic, five; aged and infirm, 26; feeble-minded, 54; vagrant and diseased, 43; and otherwise disabled, 62 These had been furnished transportation to this country as follows: by cities, towns, and other municipalities, 18; by benevolent associations, societies, and emigration agencies, 59; by padrones, contractors, corporations, and individuals under agreement to labour, 23, and by relatives, guardians, and friends, 114. By their own statements they were found to have landed as follows: at the port of New York, 192; at other United States ports, 15; and at various Canadian ports, seven. After careful examination these persons were returned to their homes as follows: to England, 33; to Ireland, 21; to Germany, 44, to Austro-Hungary, 55; to Italy, 43; to Russia, nine; to Sweden, three; and to Holland, Switzerland, Scotland, Bulgaria, Denmark, and Norway, each one. The total expenditure of these removals was $5328 26; the average per capita cost, $24 90. Since this Act came into force in 1890 up to Sept. 30th, 1898, there have been 3350 removals made at a total expenditure of $75,322 25, or an average per capita of $22 48.

Alleged Hypnotic Power over a Jury.

Not one of the least sensational features of a recent prosecution in New York City for blackmailing was the alleged hypnotic power of the defendant's wife. According to the newspapers no juror could look her in the eyes and render a fair and impartial verdict. Whether it was that the court really did fear that she would hypnotise the jury or that she was caught ogling the jury and making signs to them the judge as far as possible kept her out of the court-room or required her to take a retired seat so that the baleful influence of her eyes would not be felt. The jurors were unable to agree, but after the trial each juror declared that the woman's eyes did not have the least influence upon him.

Cleansing the City of Havana.

The colossal task of putting every dwelling in the city of Havana into good sanitary condition is progressing Surgeon-Major Davis has hired 100 resident physicians for house-to-house inspection to compel obedience to the new regulations. All cesspools under houses are to be closed and sealed. Garbage is to be removed daily. It is expected that the city will be in a fair sanitary condition within three months, without underground sewerage. The old residents regard these new health regulations as unnecessary and meddlesome and even some well-to-do and well-informed persons, when making their objections, describe themselves as "healthy enough." To-day 1000 people are engaged in the work of cleansing the streets and public buildings.

Jan. 13th.

Obituary.

EDMUND JOSEPH FURNER, F.R.C.S. ENG., L.S.A.

THE medical profession has lost one of its most venerable members by the death of Mr. E. J. Furner who passed away on Jan. 1st at his residence in Brunswick-square, Brighton. A member of a well-known Sussex family, he was born in Brighton on Dec. 13th, 1805, and there he spent the greater part of his long life. One of his brothers was judge of the Sussex County Court and another brother, Mr. Robert Furner, gave the town a valuable collection of prints which has been named after him. Having chosen the medical profession Mr. Furner studied at St. George's Hospital and the Windmill-street School and qualified himself to practise by becoming L.S.A. in 1828 and M.R.C.S. Eng. in 1829. After a voyage to India as a ship's surgeon he was appointed house surgeon to the Sussex County Hospital, eventually rising to be surgeon, a post which he held for 32 years, and on his resignation of it in 1876 he was presented with an illuminated address by the physicians and surgeons. From that time to the day of his death he was consulting surgeon, so that his connexion with the hospital continued from first to last for nearly 60 years. Mr. Furner was admitted F.R.C.S. Eng. in 1854. In 1836 he published a case of ligature of the external iliac artery for femoral aneurysm and in 1863 a successful case of ligature of both subclavian arteries for axillary aneurysm. Up to the time of the brief illness which ended in his death the deceased retained some degree of activity and his faculties were but little impaired. He was a widower and has left two sons, one of whom is a surgeon to the Sussex County Hospital.

EDWARD NICOLLS CARLESS, M.D., C.M. ABERD., L.F.P.S. GLASG., J.P.

DR. EDWARD NICOLLS CARLESS died at his residence, Lansdowne House, Devizes, last week. The deceased received his medical education at the University of Aberdeen where he graduated M.B. and C.M. in 1871; the same year he also took the qualification of L.F.P.S. Glasg. In 1897 he was admitted M.D. Aberd. Dr. Carless was extremely popular and highly respected in Devizes where he was medical officer of health, consulting surgeon to the Cottage Hospital, surgeon to the prison, and also medical officer of the 1st District of the Devizes Union. The deceased took a great interest in the Volunteer movement and was until recently Surgeon-Lieutenant-Colonel in the 2nd Volunteer Battalion Wilts Regiment. Dr. Carless was a Justice of Peace for Devizes and the middle division of Wiltshire. He will be greatly missed in Devizes and much sympathy is felt for his widow and children. The funeral which took place on Jan. 28th was largely attended; amongst those present were Mr. C. E. Colston, M.P., Captain Sterne, R.N. (chief constable of Wiltshire), the medical practitioners of Devizes, the mayor and corporation, the Devizes detachment of Volunteers, and other representative bodies.

GEORGE FREDERICK FARR, M.R.C.S. ENG., L.R.C.P. EDIN.

MR. G. F. FARR, of Kennington-road, S.E., who died on Jan. 11th at his residence, Penrhyn Lodge, Twickenham, had been for nearly 40 years in practice in the neighbourhood of Kennington. His medical education was received at Guy's Hospital and in 1859 he took the diploma of the Royal College of Surgeons of England, supplementing it in 1860 by the Licence of the Royal College of Physicians of Edinburgh Mr. Farr was a man widely known and highly esteemed by a large circle of acquaintances and patients. He was a Fellow of the Obstetrical Society of London, a member of the British Medical Association, surgeon to the L Division of the Metropolitan Police, and also surgeon to Scotland Yard. Mr. Farr's death, which occurred somewhat suddenly, was due to cerebral hæmorrhage. He has left a widow, four sons, and three daughters.

JOHN HAYBALL PAUL, M.D. ST. AND., F.R.C.P. EDIN., F.R.C.S. ENG.

THE death is announced of Dr. John Hayball Paul which occurred at his residence, The Terrace, Camberwell, on Jan. 29th. Dr. Paul became a Member of the Royal College of Surgeons of England in 1840 and a Fellow in 1859. In 1854 he graduated as M.D. at the University of St. Andrews, became a Member of the Royal College of Physicians of London in 1859, and a Fellow of the Royal College of Physicians of Edinburgh in 1858. He was for many years treasurer and at the time of his death emeritus treasurer of the Medico-Psychological Association of Great Britain and Ireland. He was appointed treasurer in 1864 and in 1895, as reported in THE LANCET of Oct. 5th of that year, was presented with an illustrated memorial and a silver bowl by Dr. Nicolson, the President, on behalf of the members.

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. A. Klein has been recognised as *privat-docent* of Hygiene.—*Berlin:* Dr. Friedrich August König has been recognised as *privat-docent* of Surgery.—*Buffalo:* Dr. E. H. Long has been appointed Professor of Therapeutics and Materia Medica.—*Giessen:* Dr. Georg Sticker, who went to India in 1897 to study leprosy and the plague epidemic, has been appointed Extraordinary Professor of Medicine. He himself suffered from bubonic plague contracted during the post-mortem examination of a plague patient. Dr. Heinrich Walther has been appointed Extraordinary Professor of Gynæcology.—*Göttingen:* Dr. Schreiber has been recognised as *privat-docent* of Internal Medicine.—*Greifswald:* Dr. August Martin of Berlin has been appointed to the chair of Gynæcology and Midwifery in succession to Dr. Pernice, who is retiring because of failure of health. The new professor is a son of the well-known gynæcologist, Professor Eduard Martin of Jena.—*Heidelberg:* Dr. Otto Cohnheim has been recognised as *privat-docent* of Physiology.—*Kieff:* Dr. Bushueff has been recognised as *privat-docent* of Internal Medicine.—*Kiel:* Dr. Helferich of Greifswald has been elected to succeed Dr. von Esmarch in the chair of Surgery.—*Lausanne:* Dr. Rabow has been appointed to the chair of Materia Medica and Therapeutics in succession to Dr. Bourget; Dr. A. Combe, *privat-docent* of Pædiatry, has been appointed Extraordinary Professor.—*Leipsic:* Dr. Paessler has been recognised as *privat-docent* of Internal Medicine.—*Marburg:* Dr. Eberhard Nebelthau has been appointed Extraordinary Professor of Physiological Chemistry and Physics.—*New York (Polyclinic):* Dr. Charles H. Chetwood has been appointed Professor of the Surgery of the Genito-urinary Organs.—*Prague (German University):* Dr. Hugo Wiener has been recognised as *privat-docent* of General and Experimental Pathology.—*St. Petersburg (Military Medico-Chirurgical Academy):* Dr. N. Andogski has been recognised as *privat-docent* of Ophthalmology and Dr. V. Levashoff as *privat-docent* of Hygiene.—*San Francisco (Cooper Medical College):* Dr. Wm. Fitch Cheney has been appointed Professor of Medicine and Dr. Emmet Rixford and Dr. Stanley Stillman have become Professors of Surgery.

UNIVERSITY OF CAMBRIDGE.—At a meeting of the trustees of the John Lucas Walker Studentship in Pathology held on Jan. 27th, W. Myers, M.A., M.B., B.C. Cantab., B.Sc. Lond., was elected senior student and E. Sydney St. B. Sladen, M.A., M.D. Cantab., was elected junior student. Dr. Myers is working under Professor Ziegler at Freiburg and Dr. Sladen is working at the Cambridge Laboratory.—The Downing Professor of Medicine (Dr. Bradbury) has appointed as his assistant Mr. I. L. Tuckett, Fellow of Trinity College, in the place of Dr. Marshall, recently elected Professor of Materia Medica at St. Andrews.

JENNER SOCIETY.—At the meeting of the Cirencester Board of Guardians and Rural District Council held on Jan. 16th, it was decided, on the suggestion of the medical officer of health (Dr. F. T. Bond), to request the Local Government Board to sanction the small expense which would be incurred by procuring from the Jenner Society vaccination literature for distribution amongst boards of guardians and their officers.

A BISHOP ON VACCINATION.—The Bishop of Bath and Wells, preaching at Weston-super-Mare on Jan. 15th, remarked that we ought not to be neglectful of our physical welfare and that if we were so foolish as to relinquish vaccination and thereby *run the risk of small-pox*, could we expect the Divine Power to be put forth to deliver us from that from which our own knowledge should have saved us?

CARDIFF SCHOOL BOARD.—At the meeting of the Cardiff School Board held on Jan. 20th Dr. W. T. Edwards was unanimously elected vice-chairman.

PROPOSED CARDIFF SEAMEN'S HOSPITAL.—In 1897 Lord Bute promised a subscription of £5000 towards the proposed Seamen's Hospital for Cardiff conditionally upon the fund reaching £25,000. Unfortunately up to the present the amount only reaches £7000 and Lord Bute now offers to increase his subscription to £10,000 providing that another £7000 is raised. It is thought that this amount will be raised as such an institution is much needed in a large seaport like Cardiff.

PRESENTATIONS.—The retirement of Mr. Alfred Cooper from the staff of St. Mark's Hospital with which he had been connected for 34 years was not permitted to take place without some recognition by his many friends belonging to the institution. Accordingly on Jan. 25th he was presented, at the house of Mr. Swinford Edwards in Harley-street, with a Chippendale clock and silver cigarette box, subscribed for by some members of the committee of the hospital, his colleagues, and old house surgeons. Upon the clock was a suitable inscription in commemoration of the occasion. Mr. Edwards in making the presentation alluded to the immense amount of human suffering which Mr. Cooper must have relieved during his long term of office and pointed out how much of the financial prosperity of the hospital had been due to Mr. Cooper's influence.—On Saturday last, Mr. J. St. John Murphy, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., of Grange Town, Yorks, on the occasion of his leaving the town after a residence there of twelve months, was entertained at a dinner by his friends and presented with an illuminated address and a gold-mounted walking stick.—At the Assembly Rooms, Cheltenham, on Jan. 23rd, the Mayor (Alderman G. Norman) presented the late mayor, Mr. Richard Rogers, L.D.S. R.C.S.I., with his portrait in oils, a massive silver gilt bowl, together with an illuminated address in an album, and a diamond horse-shoe brooch for

Mrs Rogers This testimonial, which cost £275, was defrayed by public subscriptions and was presented to Mr Rogers as a mark of the esteem and respect felt for him and for the excellent manner in which he had performed the duties of mayor for the past three years —At the Clifton Grand Spa, on Jan 26th, a complimentary dinner was given to the local executive officers during the visit of the British Association to Bristol last year—Mr J W Arrowsmith, the honorary treasurer, and Mr Arthur Lee and Dr Bertram Rogers the joint honorary secretaries A presentation of a silver salver was afterwards made to each of these gentlemen.

THE LATE DR HENRY MARSHALL — On Jan 18th, in the presence of a large congregation, Bishop Bromby dedicated a side altar which has been erected by subscription in the Lady Chapel of St Raphael s Church, Bristol, as a memorial to the late Dr Henry Marshall of Clifton The Bishop, in his address, paid an eloquent tribute to the memory of Dr Marshall whose life and work he held up as a brilliant example

DINNER TO SURGEON W. J. MAILLARD, R N, M D, V C—The medical officers of the Mediterranean Fleet entertained Surgeon Maillard to dinner at the Malta Union Club on Jan 13th, 1899, in honour of his being awarded the Victoria Cross for his brave actions on the recent disturbance at Crete Commander Vaughan Lewes, D S O, and the other officers of H M S *Hazard*, were invited to meet him About 30 sat down to dinner under the able presidency of Deputy Inspector General Martin, the proceedings being enlivened by the band of H M S *Revenge*, kindly lent by Rear-Admiral Sir Gerard Noel, K C M G After the Queen's health had been drunk, the president, in a most eulogistic speech, proposed the health of the "Guest of the evening" and congratulated him upon receiving from Her Majesty the most coveted of honours, the Victoria Cross Surgeon Maillard, in response, thanked his brother officers for the honour which they had done him and said that he was more than pleased to have done something for the honour of the medical branch of the navy and felt very much their sympathy and appreciation

LITERARY INTELLIGENCE — The first number of a new monthly review named *Le Mois Médical* appeared in January, it is published by Messrs J B Baillière et Fils, 19, rue Hautefeuille, Paris The subscription is one franc for all countries Messrs Baillière have also sent us their general catalogue of scientific works (114 pages 8vo), containing the title, date, price, number of pages, and many indications of the nature of the contents of about 5000 books and pamphlets on medicine, natural science, agriculture, veterinary medicine, physics, chemistry, &c It is forwarded to any address for 50 centimes, the cost of postage

MEDICAL MAGISTRATES —The following gentlemen have been appointed magistrates for the colony of New South Wales —G T C Adams M D Camb, L R C P, L R C S Edin, L F P S Glasg, of Melbourne, W Atterbury, M D Irel, M R C S Eng, of Catherine Hill Bay, N S W, F W Kane L R C P, L R C S Edin, L F P S Glasg, of Bourke N S W; W M Lyttleton, M D Columb, L R C P Edin, M R C S, of Adelong, N S W, C S Bowker, L R C P Lond, M R C S, of Tumut, N S W, S C Watkins, M R C S Eng of Manly (Sydney) N S W, and T N Wright L R C P Lond, M R C S Eng, of Stroud N S W—Mr E M Pain, M B, Ch M Syd, of the Prince Alfred Hospital, Sydney, has been appointed a magistrate for the colony of New South Wales

Appointments.

Successful applicants for Vacancies Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub Editor, not later than 9 o clock on the Thursday morning of each week, for publication in the next number.*

ANDREW J F L.R.C P Edin, M R C S, has been appointed Officer of Health to the city of Hawthorne, Victoria Australia, vice T O F Alsop

BAILEY, JOHN GEORGE M B, C M Edin, has been appointed Senior House Surgeon to the Bury Hospital, Lancashire

BARNARD HAROLD L, M S Lond M B B S, F R C S Eng, L.R.C P. Lond., M R.C S, has been appointed Assistant Surgeon to the Metropolitan Hospital and Surgical Tutor to the London Hospital.

BATE, GEORGE PADDOCK M D Brux L.R.C P F R C S Edin., M R C S has been appointed Consulting Physician to Queen Adelaide s Dispensary, Bethnal green road, N E, vice W Munk, deceased

BATTEN FREDERICK E M A M D Cantab, M R.C P Lond., has been appointed Pathologist to the National Hospital for the Paralysed and Epileptic (Albany Memorial), Bloomsbury, vice Risien Russell, appointed Assistant Physician

BEILBY, J H M B., C M. Edin has been re-appointed Medical Officer to the Bromsgrove Cottage Hospital.

BOWMAN A. S M B Ch M Edin has been appointed Government Medical Officer and Vaccinator to the District of Singleton New South Wales vice R. Reed resigned.

BRAMWELL, EDWIN M B, C M, has been appointed Junior House Physician to the National Hospital for the Paralysed and Epileptic (Albany Memorial) Bloomsbury vice J S Collier, promoted to the senior post.

CALVERT F M R C S has been re-appointed Honorary Surgeon to the *Beverley Dispensary and Cottage Hospital.*

CLAPHAM W C S M D, Brux L.R C P Lond M R C P Edin, M R C S has been re-appointed Honorary Physician to the Sheffield Royal Hospital

CLEMENTS S D L.R.C P L.R.C S, L.F P S Glasg has been appointed Medical Officer to the Farnley Sanitary District of the Bramley Union

COATES R, L.R.C P Lond M R.C S, has been appointed Medical Officer to the Barford Sanitary District of Bedford Union vice C Sprigge, resigned

COOKE, F H, L.R.C P Lond., M R C S, has been appointed Medical Officer to the Fifth Sanitary District of the Lexden and Winstree Union.

CRUTCHLEY, W J F, L.R.C P Lond M.R.C S, has been appointed Assistant Pathologist and Bacteriologist to the Perth Public Hospital, West Australia

DAVIDSON, JAMES MACKENZIE, M B, C M has been appointed Honorary Medical Officer in Charge of the x Ray Department, Royal London Ophthalmic Hospital, Moorfields

DIBBS W S L R C P Lond, M R C S, has been appointed Medical Officer to the Farnham Royal Sanitary District of the Eton Union.

DINGWALL, A, M B C M Glasg has been appointed Medical Officer to the Kinsham Sanitary District of the Kington Union.

GAMAN F R S L.R.C P Lond., M R.C S., has been appointed Medical Officer for the No 1 Sanitary District and the Workhouse of the Caistor Union

GILLIES S, M D Lond, L.R.C P M R.C S, D P H Camb, has been appointed Honorary Assistant Physician to the Prince Alfred Hospital Sydney, New South Wales.

HEALY, J J S L.R C P, L R C S Edin, L.F P S Glasg has been appointed Officer of Health to the Shire of Philip Island and Woolamai, Victoria, Australia, vice W Corry, resigned

HOPKINS H C., L.R C P Edin, M R C S, has been appointed Medical Officer to the No 2 Sanitary District of the Bath Union vice Caleb Barrett, resigned

INGRAM A. M M B, C M Edin, L.R C P Lond, M R C S has been appointed Resident Assistant Medical Officer to the Workhouse of the Birkenhead Union.

JAMES, W H, M B Melb has been appointed Officer of Health for Marongshire, Victoria, Australia, vice J. C McKee, resigned

LAVER, PHILIP G L.R C P Lond M R.C S, has been appointed Medical Officer by the Lexden and Winstree Guardians.

LAWSON W F C, M B M S Edin has been appointed Government Medical Officer and Vaccinator to the Victoria District, New South Wales

MORGAN D N L R C P Lond M R C S has been appointed Medical and Vaccination Officer for the Tonyrefail and Gilfach Goch Sanitary District of the Pontypridd Union.

MORRIS C D L.R C P Lond, M R.C S, has been re-appointed Medical Officer by the Sunbury Urban District Council.

O DOWD J A., L.R.C P Lond, M R C S, has been appointed Assistant Medical Officer to the Workhouse of the Parish of Birmingham

PAIN E M, M B Ch M Syd has been appointed Medical Superintendent to the Prince Alfred Hospital Sydney New South Wales, vice F J T Sawkins, resigned

PROUDFOOT FRANK G M A St [illegible] and C M Edin has been appointed [illegible] the degrees B Ch, in the [illegible]

Raper, M. H., M.D. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer to the Wakering Sanitary District of the Rochford Union.

Scott, A. W., M.D. Brux., M.R.C.S., has been re-appointed Medical Officer of Health to the Handsworth Urban Sanitary District.

Scott, E. H., M.B., Ch.M. Syd., has been appointed Public Vaccinator to the District of Kumara, New Zealand.

Slater, Howard, L.R.C.P. Lond., M.R.C.S., has been appointed Public Vaccinator to the Mercury Bay District, New Zealand.

Trethowan, Wm., M.B., Ch.M. Aberd., has been appointed Honorary Assistant Surgeon to the Public Hospital, Perth, West Australia.

Vines, S., L.S.A., has been appointed Resident Clinical Assistant to the Workhouse and Infirmary of the Parish of Paddington.

Walter, E. W., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer to the South Shoebury Sanitary District of the Rochford Union.

Wassell, J. L., M.B. Syd., has been appointed Resident Registrar and Anæsthetist to Prince Alfred Hospital, Sydney, New South Wales.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

Colonial Office, London.—Medical Officers for temporary service on the Gold Coast, for one year. Unmarried. Salary at the rate of £350 a year, with quarters, or an allowance in lieu thereof. Also Medical Officers for the West African Frontier Force on the Niger. Apply personally to the Assistant Private Secretary at the Colonial Office.

County Hospital, Ryde.—House Surgeon. Salary £50 per annum, with board, lodging, &c.

Coventry and Warwickshire Hospital, Coventry.—Senior House Surgeon for not less than two years. Salary £100 per annum, with rooms in the hospital, board, washing, and attendance.

Dental Hospital of London, Leicester-square.—Assistant Dental Surgeon.

Hereford General Infirmary.—Assistant House Surgeon and Dispenser for two years; unmarried. Salary £75 per annum, with board, residence, and washing.

Hospital for Sick Children, Great Ormond-street, Bloomsbury, London.—House Surgeon to Out-patients for six months. Salary 25 guineas.

Hospital of St. Francis, 145, New Kent-road.—Assistant Physician.

Huddersfield Infirmary.—Junior House Surgeon. Salary £40 per annum, with board, lodging, and washing.

Kent County Lunatic Asylum, Barming Heath, near Maidstone.—Fourth Assistant Medical Officer and Pathologist for two years; unmarried. Salary £175 per annum, rising £5 a year, with furnished quarters, attendance, coal, gas, garden produce, and washing. Applications to the Superintendent, Barming Heath Asylum, Maidstone.

Liverpool School of Tropical Diseases in connexion with University College, Liverpool, and the Liverpool Royal Southern Hospital.—Lecturer in Tropical Diseases. Salary £250 a year and proportion of students' fees, with the right of private practice, will be granted. Applications to Professor Boyce, University College, Liverpool.

Miller Hospital and Royal Kent Dispensary, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary at the rate of £30 per annum, with board, attendance, and washing.

Morpeth Dispensary, Beechfield, Morpeth.—House Surgeon, unmarried. Salary £120 per annum, with furnished rooms, coal, and gas.

National Orthopædic Hospital, 234, Great Portland-street, London.—Surgeon's Registrar.

Norfolk and Norwich Hospital, Norwich.—Assistant to House Surgeon for six months. Honorarium £20, with board, lodging, and washing.

North London Hospital for Consumption and Diseases of the Chest, Mount Vernon, Hampstead.—Resident Medical Officer for one year. Applications to the Secretary, Offices, 41, Fitzroy-square, W.

Parish of Lambeth.—Medical Officer for District No. 6 and also a Medical Officer for District No. 8 of the Parish. Salary for No. 6 District £90 per year and for No. 8 District £80 per year, with extra fees as specified in the Orders of the Poor-law Board, subject to statutory deduction. Applications to the Clerk, Guardians' Offices, Brook-street, Kennington-road, S.E.

Royal Berks Hospital, Reading.—Assistant Medical Officer, for six months. Board, lodging, and washing provided and an honorarium of 10 guineas awarded conditionally.

Royal London Ophthalmic Hospital, Moorfields, E.C. Physician.

Royal Surrey County Hospital, Guildford.—Resident House Surgeon. Salary £80, with board, residence, and laundry. Also Assistant House Surgeon. Salary £30, with board, residence, and laundry.

Sheffield Union.—Assistant Medical Officer (single or widower), to reside at the Union Workhouse, Fir Vale, Pitsmoor, for twelve months. Salary £100 per annum, with apartments, rations, and other usual allowances. Also Junior Assistant Medical Officer for the Workhouse Infirmary, Fir Vale, Sheffield, for six months, unmarried. Furnished apartments, board, and washing provided. Honorarium of £12 will be granted. Applications to the Clerk to the Guardians, Union Offices, West Bar, Sheffield.

St. Mary's Children's Hospital, Plaistow, E.—Assistant Resident Medical Officer for six months. Salary at the rate of £50 per annum, with board, lodging, and washing.

St. Mark's Hospital for Fistula and other Diseases of the Rectum, City-road, London.—House Surgeon. Salary £50 per annum, with board and lodging.

Queen Charlotte's Lying-in Hospital, Marylebone-road, London.—Assistant Resident Medical Officer, for four months. Salary at the rate of £50 per annum, with board, residence, and washing.

University of St. Andrews.—External Examiner for Graduation in the Subject of Public Health.

West Bromwich District Hospital.—Resident Assistant House Surgeon for six months. Board, lodging, and washing provided. Gratuity £20.

Births, Marriages, and Deaths.

BIRTHS.

Brackenbury.—On Jan. 27th, at Stapleton-hall-road, Stroud-green, the wife of Henry B. Brackenbury, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

Griffith.—On Jan. 27th, at Park-square, Leeds, the wife of T. Wardrop Griffith, M.D., of a son.

Morris.—On Jan. 27th, at Gordon Lodge, Charlton-road, Blackheath, the wife of Clarke Morris, M.R.C.S. Eng., of a son.

Wilson.—On Jan. 28th, at Malvern, Kenley, the wife of Norman O. Wilson, F.R.C.S., of a daughter.

MARRIAGES.

De Lessert—Robberds.—On Jan. 25th, at St. Mary's, Arbroath, Alfred Alexander De Lessert, L.D.S., Union-street, Aberdeen, to Amy Caroline, only daughter of the late Rev. Frederick Robberds of Saltford, Somerset.

Walker—Moorhouse.—On Feb. 2nd, at St. Mary's, Crumpsall, Manchester, by Rev. R. Catterall, Rector, assisted by Rev. T. M. Macdonald, Rector of Kersal and Prebendary of Lincoln, Edward J. Walker, B.A., M.D., Manchester, youngest son of the late Rev. John Walker, Dublin, to Emily Henrietta, second daughter of Christopher Moorhouse, Fieldhead, Crumpsall, Manchester.

DEATHS.

Carless.—On Jan. 25th, at Devizes, suddenly, Edward Nicolls Carless, M.D., aged 50 years.

Crane.—On Jan. 25th, at Kensington-court-gardens, Samuel Leonard Crane, C.M.G., M.D.

Fisher.—On Jan. 30th, at his residence, Lowther-terrace, Lytham, Luke Fisher, M.D., aged 59 years.

Knight.—On Jan. 27th, at the Parsonage, Rainham, Kent, John Sladen Knight, M.D., M.R.C.P., aged 78 years.

Paul.—On Jan. 29th, at The Terrace, Camberwell, John Hayball Paul, aged 83 years.

Tiley.—On Jan. 25th, 1899, at Fleetwood, Lancs., William George Tiley, M.R.C.S., aged 79.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3 30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (9 30 A.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.), London Throat (2 P.M.).

TUESDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1 30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (8th).—St. Bartholomew's (1.30 P.M.), University College, (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9 30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (9th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3 30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.).

FRIDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's, (3.30 P.M.), Guy's (1 30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2. 30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (11th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1 30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (6th).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (40, Leicester-square).—7 P.M. Council Meeting. 8 P.M. Paper:—Dr. W. Hunter: The Relation of *Dental Diseases* to General Diseases. Casual Communications:—Mr. L. Matheson: Some Obtundents —Mr. W. Rushton: An Improved Arm rest.—Mr. T. Harris: Models showing Suppression *of Permanent Teeth*.

MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. S. West: Some of the Clinical Aspects of Granular Kidney. (Lettsomian Lecture) *Lecture I.—Syllabus. The importance of* the disease, as shown by its frequency and its fatality. More often overlooked than diagnosed. The pathological forms. All chronic Interstitial Nephritis *is not Granular Kidney*. The relation *of Granular Kidney* to Acute Nephritis must be proved by clinical evidence. The changes in the vessels must be distinguished from Atheroma. The relation *of Granular Kidney to* Gout and Lead *Poisoning. The early recog*nition important; possible by physical signs only. Hypertrophy of Heart, secondary, but may be caused by Atheroma. Thickened Arteries, common in young, what is its *significance? Arterial* Tension; peculiarities in Granular Kidney. High tension in the young is important, and may be one of the early signs of Granular Kidney.

SOCIETY OF ARTS.—8 P.M. Dr S Rideal: Bacterial Purification of Sewage. (Cantor Lecture.)

TUESDAY (7th).—PATHOLOGICAL SOCIETY OF LONDON (20, *Hanover*-square, W.)—Dr. G. F. Still: Congenital Hypertrophy of the Pylorus.—Mr. S G. Shattock: Dilatation of the Œsophagus.—Dr. W. S. L. Barlow. Dilatation of the Œsophagus.—Mr. S. Boyd: Alveolar Sarcoma of Rectum.—Dr. Rolleston: Carcinoma of Cardiac Orifice of the Stomach.—Dr. H M. Fletcher: Adenoma of Brunner's Glands —Dr. C. D. Green Umbilicus Polypus.—Dr. F. P. Weber: Diffuse Syphilitic Change in the Liver. Card Specimens —Dr. R. Cautley (2), Dr. M. Fletcher, Dr. Rolleston: Specimens of Congenital Hypertrophy of the Pylorus —Dr. L. Barlow: Gastric Carcinoma spreading up the Œsophagus —Mr. H. B. Hickman: Carcinoma supervening on Gastric Ulcer.—Dr P. Weber.

WEDNESDAY (8th).—HUNTERIAN SOCIETY.—8 P.M Annual General Meeting 8.30 P.M. Sir H. Beevor, Bart.: The Declension of Phthisis. (Annual Oration)

SOUTH-WEST LONDON MEDICAL SOCIETY (Stanley's, 235, Lavender-hill, Clapham Junction, S.W.).—8 P.M. *Dr. C. Arkle*: Some Points in the Treatment of Tuberculosis

THURSDAY (9th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W)—8 30 P.M Specimens will be shown by Dr. Bantock, Dr. Jellett, Dr. Snow, and Mr J. F. Jordan. Papers:—Prof. M. Robson: Complete Removal of the Sac in a Case of Extra-Uterine Gestation.—Dr. M. Lawrie: *Notes* on a Case of Extra-Uterine Pregnancy.

FRIDAY (10th).—HUNTERIAN SOCIETY.—7 P.M. Annual Dinner at the Café Monico.

CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.)—8 30 P.M. Papers:—Mr. W. G. Spencer Tuberculous Cavities in the Lungs giving rise to Gaseous *Metastatic Abscesses.—Dr. Barlow* and *Dr.* Batten: A Case of Myopathy, with Autopsy, in a Boy of five years (illustrated by microscopical specimens and lantern slides)—Mr. J. R. Lunn: *Some* Results of Operation for Enlarged Prostate.—Mr. H. Betham Robinson: Hydatid Cysts of the Upper Lobe of the Right Lung and Liver Successfully Removed.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (6th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. L. Hill: Researches on the Influence of Gravity on the Circulation.

ROYAL INSTITUTION OF GREAT BRITAIN.—5 P.M. *General Monthly* Meeting.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. S. Taylor: The Examination of the Thoracic Viscera.

TUESDAY (7th). — WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—4 P.M. Dr. F. Beach: *Cases of General Paralysis of the Insane and Allied Disorders*

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3 30 P.M. Dr. Beevor: On the Actions of Muscles.

ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. *Prof.* E. Ray Lankester: The Morphology of the Mollusca.

WEDNESDAY (8th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. L. Hill: Researches on the Influence of Gravity on the Circulation.

EVELINA HOSPITAL (Southwark-bridge-road, S E).—4 30 P.M. Dr. W. S. Fenwick: Clinical Demonstration on Vomiting in Infancy and Childhood. (Post-Graduate Course).

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Fowler: Influence of other Diseases upon Pulmonary Tuberculosis.

THURSDAY (9th).—CHARING-CROSS HOSPITAL.—4 P.M. Mr. Waterhouse: Demonstration of Surgical Cases. (Post-Graduate Class.)

ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Dr. A. Macfadyen: Toxins and Antitoxins.

LONDON TEMPERANCE HOSPITAL.—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration to Senior Students.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. S. Taylor: The Examination of the Thoracic Viscera.

FRIDAY (10th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. L. Hill: Researches on the Influence of Gravity on the Circulation.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager"*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1898, which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in THE LANCET of Jan. 7th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1898 are now ready. Bound in cloth, gilt lettered, price 18s., carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2s., by post 2s. 6d.

To be obtained *on ap*[illegible] the Manager, accompanied by remittance.

TO GOVERN MEDICAL PRACTITIONERS.

"Submit yourself to governors," said that most human and lovable of the apostles, Peter; but he meant to imply by governors duly constituted authority and not irresponsible tyranny or idle arrogance. To give way to either of these is to wrong ourselves and our neighbours. For which reason the following scheme is one that should be strenuously resisted by all the medical practitioners concerned and not only by them but by all the profession of the country who should unanimously declare that for medical men to work upon such a basis is cramping to their science, derogatory to their position, and totally impossible from every point of view.

COPY OF SCHEME INTRODUCED BY JOHN THOMAS, MINERS' AGENT, GARW MINERS' ASSOCIATION.

A Scheme to govern the Medical Practitioners of the Garw Valley, to be called the "Medical Practitioners' Governing Committee."

1.—The committee to be called "The Medical Practitioners' Governing Committee."

2.—The committee shall be constituted of one for every 100 workmen in each colliery involved in the Garw Valley district and shall be appointed by the workmen at a meeting duly called for that purpose.

3.—The duty of the committee shall be to appoint a sufficient number of qualified medical practitioners for the whole district, including Blaengarw, Pontycymmer, Pontyrhyl, Bettws, Coytrehane, Tondu, Brynmenuin, and Bryncethin.

4.—To receive all monies kept as poundage at the colliery offices.

5.—To pay the medical practitioners such annual salaries, with or without surgical appliances and drugs, as they think fit.

6.—That the committee shall have power to grant the medical practitioners one month holidays annually, either in the months of July or August, or as may be agreed upon between them.

7.—The committee to have power to appoint qualified Assistants to attend upon the workmen and their families during such holidays.

8.—The committee to pay the medical practitioners their salaries once every three months.

9.—The committee to have full power to deal with any emergency which may arise between them and the medical practitioners engaged by them.

10.—The committee to receive and give three months' notice to terminate all engagements between them and the medical practitioners.

11.—The medical practitioners to *be under the sole control of the Governing Committee* and to devote the whole of their time to attend upon the workmen and their families in all cases of accidents and sickness, including confinements.

12.—They shall render all assistance possible to obtain compensation to all injured workmen.

13.—They shall attend all committee meetings called for the purpose of discussing cases of injury.

14.—The committee shall issue an annual balance sheet, showing the state of the funds.

(1) It was a pretty taste in the author of this scheme to christen it a scheme to "govern the medical practitioners." The persons who subsist on the wages of their fellows and who give them orders to strike, to resume work, or to contribute to other strikes and who generally organise labour—finding perhaps the duties both less onerous and more remunerative than labouring—are apt to drop into a domineering tone; hence we may assume without much fear that the scheme leapt from the brain of a miners' agent.

(2 and 3) With Clauses 2 and 3 we have no fault to find. The miners ought to have a voice in choosing their medical attendant and ought to feel certain that the supply of medical men is adequate, for they require medical services too often not to value them highly.

(4) This clause might at some time possibly conceal a fraud upon both the medical men and the miners. Under it the "governing committee" might charge the men one rate of poundage and pay the practitioner at another and lower rate. The balance thus obtained would have a tendency to be spent in secretarial expenses, as everyone knows who has followed the practices of organisers in the interests of labour.

(5) This clause would regularise such a fraud as is suggested in the preceding clause.

(6) The time for the medical man to take a holiday is when the cases on his hands allow him to do so. And even if this were not the obvious case it is difficult to understand why the person who ministers to the bodily needs of the miners should not be as much a free agent with regard to his holidays as any gentleman who sells them beer or beef. Of course a competent substitute must be provided.

(7) It is not very long since the miners in a Welsh district made a demonstration in favour of an unqualified man who was dismissed by his employer because of the new regulations of the General Medical Council. This committee of laymen, and possibly not of highly educated laymen, must understand that the word "qualified" has a technical meaning. It does not mean a person whom the committee think suitable; but it means a man who possesses certain degrees and diplomas.

(8) On this clause and on Clauses 10 and 14 we make no comment.

(9) Medical men serving under a committee will, of course, take care to be provided with a proper legal agreement in which the duties of the parties towards each other are specified and in which provision is made for settling any disputes. The committee should only have—and, for that matter, should only be found asking for—such discretion as a fair agreement would give them. These remarks also hold good for Clause 11.

If Clauses 12 and 13 mean anything they mean that whenever a miner sees a chance of getting an annuity out of an owner the medical practitioner must help him whatever be the legal and medical merits of the case. Need we say that no self-respecting medical man would subscribe to such a condition and that its proposal stamps the scheme as immoral.

"INDISCRIMINATE MEDICAL CHARITY": A DISCLAIMER.

To the Editors of The Lancet

Sirs,—My attention has been drawn to an article in The Lancet in which a whole column is devoted to a lecture written for my special edification. It is really a work of supererogation on your part to fill so much of your valuable space for such a needless purpose, particularly as I have been a regular reader of The Lancet for over 12 years and have consistently followed its teaching on all matters of professional conduct. Regarding the circular from which you quote and on which your correspondent waxes so eloquent, I was quite oblivious of its existence until Sunday last when I heard of the comments which had been made by you on my want of respect for the dignity of the profession and on inquiry I learned that a circular had been issued setting forth the advantages of the Church Lads' Brigade, an organisation which has been of incalculable benefit to the boys of the district. The gentleman who was responsible for the publication of the circular then told me of its contents and said that a professional brother had objected to its being sent round. Immediately all further issue was stopped and there, it was thought, the matter ended. Indeed, the gentleman in question did not previously think to mention the incident to me, so that you see I was not in any way cognisant of the offending paragraph.

Now respecting your comments, they altogether exaggerate the importance of the matter. Instead of offering free attendance to "all sorts of persons indiscriminately," my connexion with the Brigade merely necessitates the medical supervision of 40 or 50 lads, to which number the company is limited. Then again your advice to me to find out the wages or the income of the lads' parents is quite unnecessary considering that in the majority of cases the lads' parents were known to me professionally before the introduction of the Brigade to this parish. As a matter of fact I have made a charge in all cases where they could afford to pay. I can understand, however, how the impression arose that I made no charge, seeing that in most of the cases the troubles about which I have been consulted arose from decayed teeth and these I have advised the lads either to have extracted or stopped by a dentist without, of course, taking any fee for that advice.

It is gratifying to learn that you exonerate me from any suspicion of unprofessional conduct even on *ex parte* evidence. I cannot help, however, coming to the conclusion that the individual who instigated the correspondence instead of first communicating with me direct was guilty not only of unprofessional conduct, but of a distinctly unfriendly act, and one unworthy of an Englishman and a gentleman. Trusting you will find space for this explanation and thanking you in anticipation,

I am, Sirs, yours faithfully,
R. J. Ferguson, M.D., M.Ch. R.U.I.

Thornton Heath, Feb. 1st, 1899.

WANTED A SUGGESTION FOR TREATMENT.

To the Editors of The Lancet.

Sirs,—I should be much obliged if any of your readers could help me in the following case. A lady asks my opinion if anything can be done to prevent her daughter, who is now only 16 years of age and over 5 ft. 10½ in. in height, still going on growing. Her friends have suggested gin as a remedy. Is there any medical or other authority for its use under such circumstances? The young lady is of prepossessing appearance, but her continued growth is looked upon as a calamity.

I am, Sirs, yours faithfully,
W. S.

Jan. 26th, 1899.

*** There is no evidence that gin possesses any particularly stunting effect, and to administer it for that purpose would be little short of criminal. The young lady and her friends must reconcile themselves to the stature which nature has granted to her. The only therapeutic measure which has been brought to our attention is contained in "Alice in Wonderland," not a sufficiently serious medical authority.—Ed. L.

A QUESTION OF FEES.

To the Editors of The Lancet.

Sirs,—I would be much obliged for your opinion on the following county-court case. I agreed to attend a Mrs. Glanville in her confinement for the small fee of 10s. 6d. provided that the fee was paid before attendance. On May 25th last she was attended in her confinement by my assistant, Mr. J. D. E. Williams, a legally qualified practitioner, but the fee was not forthcoming. I accordingly took out a county-court summons against Mr. Glanville for the ordinary confinement fee of 20s., as the fee of 10s. 6d. had not been paid according to agreement. The hearing took place this morning before Judge French at the Shoreditch County-court and the facts were not disputed, but the judge held that I could not recover any fee as 'I had not myself attended the woman' and gave judgment for defendant with 5s. costs." I may add that there was no neglect r anything whatever alleged against my assistant's conduct or n his attendance on the case. But the defendant alleged that the eason I did not attend was because I was drunk, which was a leliberate falsehood as I could easily prove it to be, and the judge tated that he did not believe that there was any truth in it. In order o reopen the case I propose to get Mr. Williams when he returns to London—as he left me several months ago—to take out a summons gainst Mr. Glanville for 20s. either in his own name or in our joint names, as I feel sure the judgment is wrong in point of law. If it is correct then no one can recover fees for services rendered by qualified assistants.

I am, Sirs, yours faithfully,
Pitfield-street, N., Jan. 31st, 1899. CHARLES W. J. DUNLOP.

*** In our opinion the decision is wrong. The principal is the right person to sue for the fees due to him in return for work done by his agent.—ED. L.

"THE STYLE OF PHYSICIAN."

To the Editors of THE LANCET.

SIRS,—The recent ruling as to the title of "physician" has somewhat cleared the air, but the subject of medical titles is still a little misty. The apothecary cannot legally describe himself either as "physician" or "surgeon," and I suppose he must in future be known as "Licentiate in Medicine, Surgery, and Midwifery of the Apothecaries' Society." This seems rather awkward and the natural remedy would seem to be union with the Royal Colleges. We are still in doubt as to the right of the M.D. to use the title of "physician" unless he is associated with one of the Royal Colleges and also whether it is allowable for one who has the legal title of "physician" to use that of "Dr." I believe that at present there is a perfectly honest difference of opinion on these two points which can only be settled by a friendly legal action or by an authoritative ruling by the General Medical Council. I think there are very few medical men who would wilfully assume false titles and it is certainly desirable that the matter should be settled. Perhaps I may venture to remark that I look upon the giving the courtesy title of "Dr." to M.B.'s as inconsistent with the position taken by THE LANCET. Either it is given because the M.B. is a physician in the eye of the law, in which case the diplomate of a physicians' college is also entitled to it, or it is a pure courtesy title which we understood THE LANCET did not approve. Hoping we may soon know where we are,

I am, Sirs, yours faithfully,
Loughborough, Jan. 28th 1899. J. B. PIKE.

To the Editors of THE LANCET.

SIRS,—Now that the case of Hunter *v.* Clare is finally settled would you through the columns of THE LANCET kindly inform us "what an L.S.A. may have inscribed on his plate," because in all fairness to the profession the same objection must hold good to an M.R.C.S., and L.R.C.P., yet at the same time there are hundreds of men with Scotch and Irish qualifications who are allowed to style themselves "Dr.?" As far as my experience goes 99 per cent. of the human race look upon a general practitioner as a man who is capable of dealing with both medical and surgical cases; therefore he is a physician and surgeon and if he be not allowed to describe himself as such will the General Medical Council give a title to all members of the profession who do not hold an M.D., F.R.C.P., or F.R.C.S. degree? There are many men who from love of the profession have started as unqualified assistants and have worked hard and paid their own fees, &c., in order to get qualified and at the same time know their work quite as well as men holding the highest degrees it is possible to obtain. I have on more than one occasion in the States amputated and operated for strangulated hernia with onl a miner to give chloroform, yet at the same time, being only an L.S.A., I, according to the late decision, am not allowed to call yself "physician and surgeon."—I am, Sirs, yours faithfully,
Jan. 30th, 1899. AN L.S.A.

SALINE ENEMA IN HÆMORRHAGE.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Jan. 21st, p. 190, Mr. Gabriel asks if saline enemas have been used in typhoid hæmorrhage. A large number of cases are noted in Sections 152-4 of the Medical Digest and Appendix where the effects of such treatment were most beneficial in hæmorrhagic collapse from various causes.

I am, Sirs, yours faithfully,
Finchley-road, Hampstead, N.W. RICHARD NEALE, M.D. Lond.

A DISCLAIMER.

To the Editors of THE LANCET.

SIRS,—My attention has been called to an article in the *Daily Mail* in which my name is mentioned. I can only say that this has been done absolutely without my knowledge or sanction either direct or indirect.

I am, Sirs, yours faithfully,
W. S. HEDLEY.
Mansfield-street, Portland-place, W., Jan. 31st, 1899.

WANTED A HOME.

A CORRESPONDENT writes to inquire if any of our readers can put him in communication with someone who will receive in an institution or suitable home a young man, aged 22 years, suffering from St. Vitus's dance. The terms must be moderate.

UNSEEMLY PRACTICES.

To the Editors of THE LANCET.

SIRS,—X has a practice in the suburb of A, where he also holds a medical aid appointment. He accepts a similar appointment in another suburb of A (which has been refused by the medical men in that district), starts a branch practice there, works it for a year, then sells it to Y, who carries on the practice on the same lines as X—viz., by touts importuning weekly from door to door irrespectively of refusal and whether a medical man is in immediate attendance. This weekly canvas goes on to join Doctor Y's club. Is not such conduct a gross breach of professional etiquette on the part of X and Y? Cannot the General Medical Council legislate in such cases if brought to their notice? The legal profession has its remedies, why should not we? Bakers and butchers are above door-to-door soliciting and underselling. I think it time a move were made—more so now, as the next meeting of the General Medical Council intends dealing with the question of medical aids in general—and Mr. Victor Horsley appealed to, who before his election promised us his support in this direction.

I am, Sirs, yours faithfully,
Jan. 28th, 1899. SPES.

*** The behaviour of X and Y as reported by our correspondent is unprofessional, but the General Medical Council has at present no power to "legislate," and we doubt whether the proceedings of X and Y would be considered "infamous in a professional respect."—ED. L.

"WANTED A 'WEIR-MITCHELL INSTITUTION.'"

To the Editors of THE LANCET.

SIRS,—If "Nemo," writing in THE LANCET of Jan. 28th, will communicate with me stating the nature of the case and the amount of outlay desired I think I can help him.

I am, Sirs, yours faithfully,
J. LIONEL STRETTON.
27, Church-street, Kidderminster, Jan. 30th, 1899.

To the Editors of THE LANCET.

SIRS,—In answer to "Nemo" in THE LANCET of Jan. 28th, p. 277, I can say that Dr. A. S. Eccles has such an institution in his own house. I have been myself under his care with the best results for the consequences of overwork.

I am, Sirs, yours faithfully,
Geneva, Jan. 30th, 1899. A. CORDES, M.D.

◆

Oculus.—Mr. F. Davidson, 20, Great Portland-street, sells a good little book under the inelegant title "Sight-testing for the G. P.," which covers the ground suggested.

Sebaceous.—We have no record of the composition of the article in question.

R. J.—We recommend application to the Dean of the Medical School.

Auctor.—We certainly do not consider such a book to be needed.

J. W. W.—Sulphate of soda, quinine, and iron.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 2nd, 1899.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Jan. 27	30·43	E.	...	62	44	35	35	36	Hazy
" 28	30·27	N.E.	0·03	59	42	33	34	35	Hazy
" 29	30·11	N.E.	0·16	46	43	35	39	40	Raining
" 30	29·90	N.E.	0·01	53	45	40	40	41	Raining
" 31	29·71	N.E.	...	44	41	34	36	37	Overcast
Feb. 1	29·47	W.	...	47	43	37	37	39	Overcast
" 2	29·44	N.E.	...	44	38	32	32	34	Cloudy

During the week marked copies of the following newspapers have been received: *Sunderland Echo, Glasgow Evening News, The Newcastle Daily Leader, Bicester Herald, Darlington Echo, Chester Chronicle, Glasgow Daily Record, Barry Herald, Architect, Times of India, Pioneer Mail, The Derbyshire Times, Haverhill Echo, Builder, Scotsman, Citizen, Kendal News, Literary Digest, Liverpool Daily Post, Fife News, Bristol Mercury, Brighton Gazette, Yorkshire Post, Sanitary Record, Leeds Mercury, Mining Journal, Hertfordshire Mercury, Public Health, Engineer, Local Government Chronicle, St. Bartholomew's Hospital Journal, Ardrossan and Saltcoats Herald, City Press, Surrey Advertiser, Local Government Journal, Lincoln Gazette, Lincolnshire Echo, Australasian Medical Gazette, Taunton Echo, Weekly Free Press and Aberdeen Herald, Glasgow Herald, Midland Daily Telegraph, East London Advertiser, Cambridge* [illegible] *d Express, St. Helen's Reporter,* [illegible] *ern* [illegible] *Echo, Devon and Exeter* [illegible]

Communications, Letters, &c., have been received from—

A.—Dr. G. Arnison, Allendale Town; Mons. J. Astier, Paris; Atlanta Society of Medicine, U.S.A., Librarian of; Messrs. Gordon Alexander and Co., Lond.

B.—Mr. C. Birchall, Liverpool; Dr. Bonmariage, Brussels; Messrs. J. Beal and Son, Brighton; T. B. Browne, Ltd., Lond.; Messrs. Battley and Watts, Lond.; Messrs. W. Blackwood and Sons, Edinburgh; Professor Boyce, Liverpool; Messrs. Bates, Hendy, and Co., Reading; Bexhill Publishing and Printing Co.; Mr. T. H. Brocklehurst, Weymouth; Mr. A. E. Barker, Lond.; *British Medical Journal*, Editor of; Mr. B. C. Bousfield, Lond.; Birmingham Oxygen Co., Birmingham.

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Y.—*Yorkshire Post*, Leeds, Proprietors of.

Letters, each with enclosure, are also acknowledged from—

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ABSTRACT OF THE

Lettsomian Lectures

ON

SOME OF THE CLINICAL ASPECTS OF GRANULAR KIDNEY.

Delivered before the Medical Society of London

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LECTURE I.[1]

Delivered on Feb. 6th, 1899.

GENTLEMEN,—Granular kidney is a disease of great importance on account of its frequency—a frequency which is by no means adequately recognised. Post mortem it is often discovered when not suspected. It is often in itself a cause of death, even of sudden death, and it often explains why death has happened in other diseases which otherwise might not have proved fatal. During life it is often discovered unexpectedly if looked for, it is often overlooked if not suspected, and it often explains a case which has been a puzzle until granular kidney gave the key. For all these reasons granular kidney is not only one of the most interesting of diseases but also one of the most important. The general frequency of granular kidney post mortem ranges from 13 2 to 18 per cent., so that it is a very common condition. Nothing will better prove the importance of granular kidney than the following statistics obtained for me by Mr. Horder, the result of an investigation made into the cause of death in persons brought into St. Bartholomew's Hospital dead or dying. The total number of such cases (excluding children under five years of age) was 79, in all of which a post-mortem examination was made. Of these 64 were dead on reaching the hospital and 15 died in the surgery. In 48 per cent. of these cases chronic interstitial nephritis was present, in 16·8 per cent. it was the only cause of death, and in 12 6 per cent. more it played its part either in producing death or in causing the lesion which led to death—i e., it was the sole or part cause of death in 38 4 per cent. Nothing more is necessary to prove the importance and frequency of the disease. Of the remaining cases three patients had phthisis and one had pneumonia.

The influence of granular kidney upon the prognosis of other diseases may be well illustrated by the case of acute pneumonia. In 100 fatal cases which I investigated 23 showed some pre-existent chronic disease of the lungs or pleura, eight of the heart, and 10 of the kidneys.

Granular kidney is a bilateral and to a great extent symmetrical affection—that is to say, both kidneys are affected, though not necessarily to the same extent. The difference in weight, however, if there be any, is slight and rarely exceeds an ounce. The kidneys may be much contracted and greatly reduced in size, so that they may not weigh more than one and a half ounces or two ounces each. Extreme contraction such as this is really rare. The kidneys are, it is true, usually reduced in size and weight, by no means to the extent which seems generally believed, while in some instances so far from being smaller than normal they may be much above the average size and weight. In other words, there are large as well as small granular kidneys, just as there are large and small cirrhotic livers. The kidneys, moreover, are not always granular on the surface, though microscopically the interstitial change may be marked enough.

The typical granular kidney is small, contracted, hard, cirrhotic, or granular, has a nodular surface, often studded with numerous cysts. On section the whole kidney is found to be cirrhotic and wasted, but the wasting affects chiefly the cortical region. The changes consist in fibroid induration and cellular degeneration. Though often described as chronic interstitial nephritis it is an open question h far these changes are in reality of inflammatory orig Certainly in most cases we have no more evidence of infla matory processes in the cirrhotic kidney than we have the cirrhotic liver.

Granular kidneys are sometimes described as of two kin the white and the red, and the difference in colour is h by many to denote difference in origin and they are accor ingly called the contracted white and the contracted re The small white is stated to be generally somewhat larg than the red, to be less granular on the surface, and to ha more cells left, these cells being in a condition of fat change, to which the colour is referred. These statemen are not in my experience correct, for small white kidne are often quite as small and as granular on the surfa as the small red and may have quite as few or ev fewer cells left and these cells are often not fatt The two forms certainly exist. The term "contracte white" introduces confusion and seems to assume th which ought to be proved—viz., the different origin the two forms. It suggests that the small white is b the later stage of the large white kidney. It assum that every stage can be demonstrated between the larg white kidney of chronic parenchymatous nephritis throug the contracting white to the contracted white If this w the usual sequence of events it ought to be capable of eas clinical proof. Pathologically it is easy to show that chron parenchymatous or the large white kidney presents interstitial changes of a contracting kind, but the weak link in th chain is between the so-called contracting form and the contracted form. If the distinction between the two forms to be made it would be very much better to speak of the as small white and small red or as white cirrhotic and re cirrhotic rather than white and red contracted kidneys. Fo myself I consider the difference to be really one of colou chiefly. Microscopically I do not see that any clear distinction can be drawn. If pathologically the distinctio between the two forms is open to question, clinically, so fa as I can see, no distinction at all can be drawn betwee them—that is to say, with exactly the same clinical symptoms we may find the kidneys in the one case white and i the other case red.

Granular kidney is often described as chronic interstitia nephritis but all forms of chronic interstitial nephriti are not necessarily granular kidney. First of all must b cut out of the category of granular kidney all those cases i which the lesion is unilateral—for example, that which results from obstruction to the ureters. Again, al cases of patchy fibrosis—e.g., the results of infarcts o gummata, even if both kidneys are involved—must b excluded, for they do not produce the clinical symptoms of granular kidney. Even when the lesions are bilateral and both kidneys are affected I should still exclude from the category of granular kidney certain forms of chronic interstitial nephritis which are often included pathologically, though clinically they are distinct. I refer to the degenerate kidneys met with in connexion with advanced atheromatous disease or with the chronic gout of elderly persons—in fact, the kidneys which are commonly called *senile or gouty*. These kidneys are often markedly interstitial and there is a good deal of fatty and cellular degeneration giving the surface a mottled appearance, but they need not necessarily be granular and are usually large. Moreover, the cases need not run the clinical course of granular kidney. Eliminating these various forms we are left with a pathological group of cases of interstitial nephritis of a definite character which we commonly recognise by the terms "granular" or "cirrhotic" kidneys.

In most recent writings granular kidney is divided into two forms, the arterio-sclerotic and the renal, and these are often dealt with in different places, the one form under diseases of the vessels, the other under diseases of the kidney, so that in order to gain a complete view of granular kidney as a disease it has to be read in different chapters. This is very inconvenient and confusing and suggests a marked difference between the two forms which clinically does not exist. It has, however, one advantage in that it fixes attention upon the question which is still at issue—viz., whether it is in the vessels or in the kidney itself that the primary causes of the disease are to be sought.

Acute nephritis attacks the cells primarily and chiefly, but the interstitial tissues are always involved to some extent and the more so the longer the disease has existed. This small-celled infiltration may in time end in the production of connective tissue at first in part only, in other cases more widely

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[1] Lectures II and III. will be delivered on Feb. 20th and March 6th, 1899, respectively.

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distributed, and there will be the more of it the longer the disease has lasted. The large red kidney of acute nephritis passes as the disease lasts gradually into the large white. In the large white kidney some interstitial change is often found—sometimes local, at other times more diffuse; and admitting that pathological connective tissue contracts in the kidney as elsewhere we should expect the large white kidney in time to become smaller, to undergo a certain degree of contraction in parts if not as a whole, and of this we have frequent pathological proof. The kidney is then described as "contracting white." It is even conceivable theoretically that the contraction might go much further, so that in time we might have the large white kidney passing into what may be described as a small white kidney or even possibly ending in a small red kidney.

Now, admitting the pathological possibility that acute parenchymatous nephritis might end in a granular kidney, if this actually occurred frequently it ought to be capable of easy clinical proof, for the symptoms of acute nephritis are not such as are likely to be often overlooked by the patient or by the friends of the patient. Such cases are recorded; but they are certainly rare, and many of them prove on careful critical investigation not to be so conclusive as they at first sight appear. I have been on the watch for them for years, and although I have seen many in which the lesion has gone so far as to produce a somewhat diminished white kidney, the majority of such kidneys are still much above normal size. I have never traced a single case beyond this—i.e., as far as a small white kidney. I do not say that it does not occur; on the contrary, I believe it may. I merely say that so far I have failed to observe it. It might be urged that marked contraction in granular kidney would be more frequent if the patients lived long enough. But it does not necessarily follow even when the symptoms of chronic parenchymatous nephritis have lasted for many years that a contracted kidney will result. I know of a woman who has had several attacks of parenchymatous nephritis in the course of 13 years and who has never at any time lost the albumin from the urine; yet now, at the end of 13 years, her arteries are thin and her heart is not hypertrophied, she appears to be in fair health and her retinæ are normal, and there are, in fact, in spite of the long duration of the case, no clinical signs whatever which would justify the diagnosis of granular kidney. Nor can any closer relation be proved by the clinical history to exist between granular kidney and antecedent acute nephritis. It is quite unusual in cases of granular kidney to obtain any history of symptoms which would in any way justify the diagnosis of acute nephritis. This fact has been always insisted on as long as granular kidney has been recognised as a disease and it is generally accepted. Even when the history of antecedent acute nephritis is obtained it does not necessarily follow that the granular kidney has been the result of it. The occurrence of acute nephritis is no proof in itself that prior to the acute nephritis the kidney was sound or, in other words, that if after an attack of acute nephritis the kidneys are found granular they became granular as the result of the acute attack. For, on the one hand, it is not uncommon in the course of a case already recognised as one of granular kidney to see acute parenchymatous nephritis develop, and, on the other, to see a patient hitherto believed to be healthy with the symptoms of acute parenchymatous nephritis, and yet for that patient to present thickened arteries and even eye-changes which show that the disease really dated long before the commencement of the so-called acute attack—in other words, that the patient has got acute nephritis in both cases alike because the kidneys were already diseased. Indeed, I think we may almost go so far as to say that as in children acute parenchymatous nephritis raises a strong presumption in favour of a recent attack of scarlet fever, so in the adult it ought to suggest the suspicion that the kidneys were previously unsound—in other words, granular. Of this I am quite sure that if in cases of acute nephritis in the adult the signs of granular kidney be looked for they will very frequently be found. If, then, in spite of the fact that in the majority of cases of granular kidney the history and symptoms of nephritis are lacking, granular kidney is still to be referred to some antecedent nephritis, it follows that the initial attack must either have been slight and therefore overlooked or else that it was of some peculiar and specially latent kind.

It is evident from what has been said that i only in a very small number of cases that a history of ant ent acute nephritis can be obtained; that in still fewer can a case be traced from an initial acute nephritis to granular kidney. It follows, therefore, that most cases of granular kidney must be referred to some other origin.

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The changes in the arteries with granular kidney are general, widespread, in fact universal, throughout the whole body. They are found in all parts alike, in the kidney, for instance, as well as in the brain, the eye, the spinal cord, or even the skin. Now, there are only two forms of general arterial change recognised in pathology—viz., atheroma and that connected with granular kidney. Atheroma is a well-marked disease of the vessels. It is the degeneration which is usual as age advances, and though sometimes met with in earlier life and sometimes even in quite young people it is certainly a comparatively rare affection at the time when the changes of granular kidney are most common. Atheroma being a general disease will, of course, affect the renal arteries like any other and will produce in the kidneys similar changes to those to which it leads in other cellular organs—e.g., in the brain. Thus it is not at all uncommon in the later periods of life to find the kidneys large and mottled, showing a good deal of interstitial tissue and of cellular change, yet these atheromatous or senile changes do not as a rule, though they may sometimes, lead to the well-known granular contracted kidney. Of course, old persons may suffer from granular kidney and the two conditions may be associated. But for all that if the question be regarded without bias and in a general comprehensive way it must be acknowledged that atheromatous diseases of the arteries and the changes of granular kidney are different in kind as well as in history. In granular kidney the thickening of the vessels is fairly uniform, at any rate it does not occur in the irregular patches of atheroma, and is universal. As to the exact nature of the change in the vessels opinions still differ as they have done from the first. There can be no doubt that there is a considerable amount of muscular hypertrophy in the vessels or that it is associated in many cases with changes in the intima as well as in the adventitia, which are not atheromatous, and yet are of a marked character.

The relation between the cardio-vascular and the renal lesions is very difficult to determine. So far as the cardiovascular symptoms go I think we may say this—that the cardiac lesions being of the nature of hypertrophy must, as in other cases, be the response of the heart to some extra work thrown upon it of a permanent kind; it must therefore be secondary. It certainly seems more probable that both the heart and the vessels hypertrophy together for the purpose of assisting the circulation to overcome some obstruction. If this be so the obstruction must be peripherally seated and must be sought therefore in the small peripheral arteries or capillaries. In these peripheral vessels the possible causes of obstruction are two: either there must be a structural change—that is to say, an anatomical lesion—or some functional disturbance which interferes with the passage of the circulation through the vessels. If the change be structural and the lesions of the peripheral vessels are of a degenerative character, being general throughout the whole of the body they would involve the kidneys as well as other parts and in this way it is conceivable that the kidney disease might be a coördinate or subordinate part of the general vascular disease. This is a theory which is now indicated by the term "arterial-sclerosis" and such kidneys are described as "arteriosclerotic" kidneys.

If, on the other hand, the change here be not of a structural kind but a functional one, any structural change that is found being of a secondary and subsequent order, the obstruction must depend upon some impurity in the blood. But this impurity of the blood which renders it more or less obnoxious to the tissues may be either of a renal or extrarenal origin. If of extra-renal origin then the result may be the same as in the former case—viz., a general vascular disease which affects the kidney as well as other parts; but it may also be of a renal origin, in which case there must have been some renal mischief antecedent. Thus even from the point of view of the vessels we are brought back again to the two original views about which so much discussion has raged—viz., whether the disease is primarily arterial or primarily renal. If the changes in the vessels be regarded as primary, as they certainly are in atheroma and may be also in granular kidney, then it might be possible to find cases of marked changes in the vessels with little or no changes in the kidney. And the same would be true if the changes in the vessels and in the kidney both stood in relation to some common cause.

It is only by studying the beginnings of the disease—that is to say, granular kidney in its early stages—that we can hope to arrive at a solution of these difficulties for in the later stages all these changes are present together and it is difficult if not impossible, to form any opinion as to precedence of the one or the other. From whatever point of view then we regard granular kidney, whether pathological or clinical we come to the same conclusion—viz, that whether primarily arterial or primarily renal granular kidney is a disease *sui generis* and ought on that account to be treated in writing on the subject under a separate heading and not split up, as it generally is, between diseases of the arteries on the one hand and diseases of the kidneys on the other

Granular kidney is a very insidious disease For a long time it presents no symptoms at all and can be recognised then by physical signs alone The only definite symptom perhaps in the early stage (and even this is not constant) is an increased frequency of micturition especially at night, but as this has been of such gradual onset that the patient has become quite accustomed to it and does not regard it as peculiar no complaint is made of it unless it be extreme and the history of it is often only to be elicited on pointed questioning When symptoms arise the disease is already far advanced In other words the symptoms do not occur until late in the disease The symptoms fall like the lesions into groups—viz, "cardio vascular" and 'renal' Speaking generally, the cardio vascular are earlier than the renal The cardiac symptoms are those of heart failure more or less pronounced The vascular symptoms are the more or less mechanical effects of the vascular lesion and consist chiefly of hæmorrhage and its results The renal symptoms are the latest to develop and they fall into two groups according as they are of gradual development or of sudden onset and they are frequently described as chronic and acute uræmia respectively I should prefer to call them acute and chronic renal toxæmia Both alike are to be connected with the wasting in the kidney and its consequent defective action The gradual and progressive wasting is attended with the gradual and progressive development of the chronic form of uræmia "Renal cachexia" is the name which I should prefer to give to chronic uræmia It strongly resembles, both in character and course the cachexia which is seen in a variety of other diseases—e g, in Addison's disease in the later stages of cirrhosis hepatitis in diabetes and in malignant disease It consists in a gradually increasing anæmia and asthenia associated with various miscellaneous symptoms The symptoms in all these cases are similar, but differ from those which are usually described as acute uræmia and the difference is probably not one of degree only but of kind so that I think they ought to be distinguished by different names For the first I should reserve the term 'renal cachexia' and for the second I should use that term which is generally accepted—viz "uræmia and both alike, both the cachexia and the uræmia may be of slow or sudden development

I propose to deal with the signs and symptoms of the disease in this order (1) the physical signs, (2) the cardio vascular symptoms and (3) the renal symptoms It is the early signs of the disease rather than the late symptoms which are of importance What is required is an early diagnosis before the disease is far advanced and this is essential if light is to be thrown upon the causes and course of the disease or if influence upon it is to be successfully exerted upon it by treatment In the early stage the diagnosis is to be made by physical signs and not by symptoms

The physical signs are high tension and thickened arteries hypertrophy of the heart and albuminuria When these are all present together the diagnosis is easy even in the young and the diagnosis thus made during life is verified post mortem But if one or other of these physical signs is absent the question arises, Of what value are those remaining? For instance, if albumin is absent what do high tension and thickened arteries mean in the young? Or if the arteries are not thick or the tension high, but albumin be present, what is the significance of the albuminuria? Each of these questions is of great clinical importance We know that the vascular changes—viz, thickened arteries and high pulse tension—develop so early in the course of granular kidney that they seem to be rather coincident or as some maintain even antecedent phenomena than effects consequent upon and produced by the kidney lesion If this were so vascular changes might be found without the kidney lesion and such cases are described

Post-mortem evidence would point to hypertrophy of the heart as a most important sign of granular kidney and so it is in the later stages where the cardiac enlargement is such as to be easily made out by percussion In the early stages it is of very little assistance because of the difficulty in diagnosing it then. The hypertrophy of the heart is probably secondary to the vascular changes and the result of them and therefore not of the prime importance some are, or so likely to be met with early.

Thickening of the arteries is one of the cardinal signs of the disease and is never absent in advanced cases I have already referred to the fact that thickening of the arteries is by no means uncommon in young people and the question as to what its significance is becomes important in relation to the early signs of granular kidney Now, at this age the thickening cannot often be of an atheromatous nature for although atheroma does occur in early life it is very much rarer than is the thickening which I am speaking of The change is in great part muscular no doubt as it is in granular kidney and the effect of nitrite of amyl upon it is the same Arterial thickening always rouses my suspicion in young people and leads me to make a careful examination for other symptoms, sometimes they are found and the diagnosis is clear, but not unfrequently nothing else is found and the doubt remains as to the meaning of this thickening in relation to granular kidney, but that it is pathological there can be no question

In well marked—i e, advanced—granular kidney the high tension pulse as well as the thickened arteries are well recognised The tension is measured between the pulse waves, the arteries, therefore feel abnormally full as well as abnormally tense When the heart begins to fail the diminished force does not necessarily alter the character of the wave When the tension falls the fall is due to a failure of the artery and not necessarily of the heart at all though both may fail together The low tension then observed is a neuro paralytic phenomenon and a bad sign It occurs only in the later stages of the disease but may then continue for some time Though the tension be low the thickening of the arteries can still be easily made out and is as characteristic as ever A persistently high tension to whatever cause due is of itself pernicious but not so with granular kidney paradoxical as thus may seem The patient is best without granular kidneys but if the kidneys be granular it is better that the tension should be high rather than low; in other words the patient is worse with a low tension; and this explains the benefit of digitalis in such cases—it does so much good by raising the arterial tension This low arterial tension or rather the fall in tension in the later stages of granular kidney is of great clinical importance the value of which Sir William Broadbent has lately emphasised To one other phenomenon I may refer which though implied by what has just been said is not generally recognised although easy to be observed if looked for I refer to the irregular fluctuations in tension which take place in the later stages of the disease before the tension becomes persistently low Thus it may be felt to vary considerably even in very short spaces of time—even for instance while the finger is placed upon the pulse In the early stages of granular kidney, go back as far as we may, as soon as the disease is diagnosable the pulse tension is high and the artery is thickened The question arises What is the value of a high pulse tension in a person in whom there is not yet other evidence enough to diagnose granular kidney by? Temporary or transient increase of tension may occur in a variety of affections but it is not to these that I refer. I am dealing with those cases in which the tension is persistently raised Sir William Broadbent differing as he does from Mahomed in theory yet attaches quite as great significance to this increase of pulse tension He describes as the ultimate results of this increased tension a variety of symptoms cardiac failure general disturbances of health a sort of cachexia and even hæmorrhage which, as I stated, could be truly predicted long before it occurred These are of course the same symptoms as those produced by advanced granular kidney If the kidneys are not granular in these cases, of which no proof is given, the arteries must at any rate become diseased if hæmorrhage is to occ[illegible] it will [illegible] can hardly be asserted [illegible] which may be comprehended when I name the facts that our camp was in the open country, in a highly infected centre far removed from any town or decent water-supply, and in the midst of rebellious natives. Despite these drawbacks, however, a considerable amount of work was done and two methods of inoculation were devised—viz., glycerinated blood followed by virulent blood and the later method which has been so largely adopted in the colony—viz., the use of glycerinated bile followed by virulent blood. In the early part of the following year (1897) I broke up my camp and proceeded to the Victoria Compound at Kimberley where I prosecuted my work for a few weeks and then went down country, forming a temporary camp at Steynsburg for the purpose of supplying virulent blood to the various bile stations then being formed in the Midland and Eastern Provinces. Eventually, late in the year, I was enabled to proceed with my staff to the headquarters at the Institute in Grahamstown.

Among the earlier observations which I was enabled to make was the important one that the blood of animals suffering from rinderpest if kept nearly aseptic at the ordinary temperature begins to lose its virulence about the sixth day after withdrawal from the body. Animals inoculated with infected blood which had been kept for nine days did not contract the disease nor did they acquire immunity. Similarly the nasal mucus from a spontaneous case of rinderpest was found to lose its virulence very quickly if exposed to the air and kept for any period beyond 24 hours. It will be seen that the recognition of this attenuation of virulence by keeping is of the first importance when immunisation is being carried out by means of the bile of animals suffering from rinderpest. The blood of such animals can retain its virulence when quickly dried in a very thin layer, but if it is dried in a thick layer its virulence is destroyed. Thus it is seen that the danger of the spread of the disease from dried masses of material of rinderpest is not very great, but the almost invisible contact of clothes, boots, hands, &c., on which the virus is almost immediately dried forms the greatest and most insidious infective agent. It is unnecessary for me to discuss the whole of the experimental work carried out by my staff inasmuch as this is fully dealt with in my annual reports for the years 1896 and 1897, in the latter of which I have dealt with the subject *in extenso*. I propose at this time to confine myself to the systems of inoculation which have been more or less in vogue and to offer my own views as to the manner under which these act.

I have alluded to the fact that if the virulent blood of animals suffering from rinderpest is kept aseptically for a few days and then mixed with glycerine and kept for eight days its virulence becomes entirely lost. If, however, from 20 to 30 cubic centimetres are used for inoculation by subcutaneous injection into cattle one can inoculate the animals with 0·1 cubic centimetre of virulent blood 10 days later without setting up rinderpest. I have since determined that the plasma and the serum of this blood, even when passed through a Pasteur filter, can be used in this way and I am thus enabled to assert that in the serum of the blood of animals in a late stage of rinderpest there is present in a greater or less degree an immunising substance. When Dr. Koch had discovered the immunising property of fresh bile I determined to endeavour to ascertain whether such bile could not be used in respect to the supposed presence of an immunising substance, because I reasoned that if the blood contained it possibly the bile might also and in greater amount. If the bile were proved to contain it the collection for preparation of bile would be easier than in the case of blood, especially by untrained or unskilled hands. The experiments necessary for this investigation were carried out on a small scale at first and having given excellent results were then proved in the case of several herds, the first being one of 125 animals at Belmont. Since then the method has been almost solely used throughout the Eastern Province. In Cathcart it was entirely used except in the case of one or two herds in which infection had appeared and to which defibrinated salted blood was used as a curative agent although not always with success. Including, however, those animals which died as a result of being spontaneously infected the total loss for the district was only about six per cent. In Somerset East the mortality was six per cent. In two areas the mortality was higher owing to the presence of red-water; in others it was less, as for instance in the Winterberg, where out of 12,000 animals inoculated, many of which were inoculated with a second dose of virulent blood following upon the first, only about half-a-dozen animals died.

The immunity thus produced lasts for several months, but if after the first inoculation with virulent blood a second or even third is made with increasing doses the immunity is greatly increased and its period of duration is very greatly extended. In the case of Dr. Koch's method of inoculation in which fresh rinderpest bile is used immunity is produced as a rule and maintains itself for several months although in some instances its duration is much shorter. The Cape Colony owes a debt of gratitude to Dr. Koch for this most important discovery, which was the first real step towards protective inoculation and which, with the increased light that experience can give, will probably be made use of at future dates in other countries. Around this method controversy has been waged, and although I have hesitated hitherto to give too emphatic utterance to my convictions I feel that now that the public have got beyond the reach of panic I may in justice to myself place before my medical brethren the conclusions at which I long ago arrived.

It may be remembered that Dr. Turner and Dr. Kolle in a paper communicated to the *South African Medical Journal* asserted that after the inoculation of animals in an unaffected area with the bile of animals affected with rinderpest the disease could not follow as a result of that inoculation. Their reason for this statement was that they held "that the gall itself cannot communicate rinderpest" and they added that "this is a fact much to be regretted, because were this possible then the immunity conferred by the bile would be of much longer duration than it has been proved to be." Veterinary surgeons throughout South Africa as a result of their extended experience in the field are unanimously opposed to this view as they hold that in very many cases the disease is conferred by inoculation with fresh rinderpest bile. My own experience in the field and the experimental work carried out not only in the Institute but also in the Victoria Compound at Kimberley and elsewhere admits of my saying that bile can and does produce rinderpest but certain samples of bile do so more than others. It has to be remembered that the bile used for the Koch method is required to be a deep bottle-green-coloured bile with a white froth. I have found that if such a bile is used fresh it does not always produce rinderpest; but I have also found that in some cases such a bile may entirely fail to confer any immunity and my experience in this regard agrees with Dr. Koch's own utterances. On the other hand, when I have used discoloured bile, brownish, yellowish, or reddish *fresh*, it has almost invariably produced rinderpest in some of the animals inoculated.

In order therefore to arrive at an explanation of these facts let us return to Dr. Turner's paper. He states that Dr. Koch considered that bile acted in virtue of its containing "the organism in full activity but this activity was restrained by the presence in the bile of a chemical substance probably of an albuminoid nature." I fully concur in this view, but I hold that, in addition to the inhibiting substance bile also possesses a passive special immunising substance. Dr. Koch mixed slaughterhouse bile with virulent blood and thereafter inoculated animals without setting up rinderpest, but no immunity resulted from the inoculation. From this it is evident that the inhibiting substance is germicidal and is present in healthy bile. In my experience discoloured bile from animals suffering from rinderpest produces rinderpest if used fresh, hence I conclude that the inhibiting substance in the bile tends to disappear as the disease advances. In using glycerinated biles I have found that early brilliant-green biles possess very little immunising substance, but the deeply discoloured biles possess it in the greatest amount; hence for the preparation of glycerinated biles I prefer that which has begun to become altered in its colour.

From a consideration of the above conclusions it may be seen that the inhibiting and immunising substances of bile are usually present in an inverse ratio. Now, in the Kimberley Compound the biles selected were invariably early biles (biles which had not begun to alter) and in regard to these I should expect to find that on the inoculation of such biles rinderpest did not always follow. Moreover, I wish to emphasise my previous discovery that the virus tends to attenuate by keeping, and as this applies equally to bile I have kept virulent biles for a few days and inoculated them with safety. Now, it has to be remembered that the bile could not be kept in the field and hence it was used with the least possible delay. Here then lies the true explanation of the fact that rinderpest has been proved to follow inoculation with fresh bile. I fully concur with Dr. Krause in this respect.[1] Dr. Turner believed that glycerinated bile possessed only a feeble immunising power and he stated that when animals inoculated with it were 10 days later inoculated with 0 2 cubic centimetres of virulent blood 70 per cent. of these animals died. Seeing that Dr. Kolle inoculated 10 of my Belmont herd with virulent blood of his own selection and received from me at his urgent request permission to do so and moreover that not one of these ever showed the slightest illness as a result of this inoculation, and since this method has also been widely tested throughout the colony, it seems to me that Dr. Turner did not use glycerinated bile as I use it or as farmers have used it. A late rinderpest bile when glycerinated possesses a powerful passive immunising action. At the Sundays River estate the natives would not inoculate and an enormous mortality has ensued. The manager of the estate, Mr. Goldhawk, inoculated his own cattle, about 400, with glycerinated bile only, repeating it at intervals of one or two months and, although they were fully exposed to infection, not one of them became affected. None of these animals were inoculated with virulent blood. Were South Africa at a future date to become threatened by invasion of rinderpest from the North again I would strongly recommend that the bile from spontaneous cases dying within the area of infection should be used to produce glycerinated bile and that inoculation with this material should be proceeded with in a broad zone or belt well outside of the infected area so as to form a cordon of passively immunised animals and that within this area and gradually overtaking it inoculation should be carried out by Dr. Koch's method. By this means in a gradually extending circle, the infected area being the centre, all animals would be first inoculated with glycerinated bile which cannot possibly confer the disease and subsequently according to Dr. Koch's method with fresh bile. At the recent juncture it was impossible to start new bile stations and hence I concurred in having recourse to serum only, as there being then very little disease in the colony and serum being available in great quantity it was the cheapest way of dealing with any small outbreaks which might arise. At the same time I think it right to state that in any serum and blood inoculation the immunity produced is of the slightest and can be readily broken down in the presence of spontaneous infection unless during the course of inoculation a severe febrile reaction has been produced. In the earlier work with serum Dr. Turner and Dr. Kolle were convinced that serum could be readily used as a curative agent for herds in which spontaneous infection had appeared, and although I was strongly opposed to this view I was in the minority at the former conference. Extended experience has, however, now shown that where animals acquire the disease spontaneously and have not previously been inoculated with bile the effect of even very large serum inoculations is not very great, *so much so that the Colonial Veterinary Surgeon is now of opinion that the cheapest manner of dealing with such animals is to destroy them.* I have referred to mortality following upon rinderpest inoculation as being due in *some cases to the complication of red-water or "Texas fever."* I have dealt with this in a detailed *report.*[2] *Meanwhile, however, I may* state that if healthy cattle which have been running on a red-water veldt and through having been bred in the area are either salted or immune are used to be infected with the blood from animals infected with rinderpest they take the disease in all respects like other clean cattle. Examination of their blood may, and usually in my experience does, fail to show any red-water parasites; nevertheless, if susceptible animals are inoculated with such blood they develop both rinderpest and red-water and this simultaneously. Curiously enough the parasite in such circumstances varies from the form described and recognised, and forms smaller or larger, sometimes vacuolated, intra-globular parasites conforming to those described by Dr. Turner and Dr. Kollo as having appeared at the Kimberley Compound and among the cattle inoculated by the former at Robben Island. I have followed up the life-history of this form of the parasite and have shown that it eventually develops in susceptible animals into the well-known form of the "Texas fever" organism. It is liable to appear in inoculated animals whether after bile and blood or serum and blood and hence in all future inoculations from the blood it will be necessary to make use for the supply of virulent blood of those cattle only which are known to have come from areas which are absolutely free from that disease.

As regards the results which have followed inoculation with glycerinated bile followed by virulent blood my attention has been directed to a statement by Mr. Maberley in THE LANCET of Nov. 5th, 1898, and inasmuch as Lord Lister seems to have made these statements the basis of his remarks upon rinderpest I feel that in justice to myself a few definite statements which can be easily verified by anyone may serve to show the utter fallacy of Mr. Maberley's remark that "the hopes entertained at one time of the method of glycerinising bile as advocated by Dr. Edington have proved fallacious" In the Cape Colony inoculation (of one sort or another) has been practised in 57 districts. Of these inoculation by glycerinated bile followed by virulent blood has been carried out in 23 districts. In 11 other districts it has been carried out to a greater or less extent. The total number of cattle inoculated by it in the 23 districts where it only has been used amounts to 393,777. The total mortality in these districts has amounted to 32,464 animals, or 8 24 per cent. In one such district (Middelburg) the young newly-born stock on the farm of Mr. Struben became affected by rinderpest 15 months after the inoculation had been completed. Although these were running with the others of the stock not one of the latter became affected, thus showing the immunity to have been quite perfect at 15 months after the inoculation.

Grahamstown, South Africa.

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[1] South African Medical Journal, June, 1898.

[2] Red water, Texas Fever, or Tick Disease; an Investigation into its Nature, Causation, and Preventive Inoculation. With Illustrations. Agricultural Journal, No. 12, June 9th, 1898.

PAROXYSMAL SNEEZING AND ALLIED AFFECTIONS.[1]

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PAROXYSMAL sneezing and affections of a closely allied character are very common. The complaint varies a good deal in severity and in the character of the symptoms. Sometimes it is only a trivial ailment; at other times it gives rise to considerable inconvenience, while in certain instances it renders life miserable for a portion of the year, if not for the whole year round. The characteristic symptoms are sneezing and running from the nose. Many other symptoms are apt to be associated with these in different cases, such as stoppage of the nasal passages, smarting, burning, or itching in the nose or conjunctiva, running at the eyes, various discomforts of the throat, and, most important of all, asthmatic symptoms. In dealing with this subject I propose to keep as far as possible to the practical side of the question and to give the results of my own experience and the views founded on such experience. It is not my aim to give a *résumé* of all that has been written on the subject and I have no new theories to advance. For the purpose which I had in view I carefully looked over the notes of 112 cases which have been under my care. These notes form sufficient material for a brief sketch of the chief forms of the complaint. They supply some indications of the etiology of the disease and they show how far the various modes of treatment which were tried were successful or otherwise

The cases which we include, for want of a better name, under the term "paroxysmal sneezing" are met with under many varieties in respect of severity of symptoms, of the prominence of particular symptoms, and of the exciting causes of the paroxysm. The term "hay fever," *often* employed to denote this complaint, is, I think, best reserved for the particular variety indicated by the name, and "vaso-motor rhinitis," a name recently introduced, has the defect of committing one to pathological views which may be right or wrong, so that on the whole, I think, "paroxysmal sneezing" is the best designation. A common type of case is that of the individual who, every day or nearly every day, has an attack of sneezing and running from the nose lasting from a few moments to half an hour or more. The attacks mostly recur at about the same hour, the morning just after rising from bed being the commonest time. Such persons generally keep free from trouble till the usual time next day, though liable to occasional sneezing attacks from certain exciting causes, such as dust, changes of temperature, &c. Another type is that of the person who is subject to frequent attacks of sneezing and running from the nose at all times of the day or night from various causes or without assignable cause. Another set of people describe attacks lasting from some hours to some days, with exacerbations and remissions. Such attacks may recur every few days, once a week, or at longer intervals: "very bad colds" they usually call them, coming on suddenly and going off suddenly—"as bad as I can be one day and perfectly well the next," as one patient said. Many of the sufferers from any form of the complaint say that they are worse at certain periods of the year, but there is one well-known class of persons who suffer mainly or exclusively at a particular season—viz., for some five or six weeks in June and July—hay-fever patients, in fact. I say mainly or exclusively, for I think that it is very rarely indeed exclusively. These hay-fever patients almost always suffer from a more or less marked liability to attacks of sneezing at all times of the year, but they suffer especially at this period of the year from the disease and its accompaniments and often with an intensity and virulence hardly met with in any other class of cases.

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[1] A paper read before [illegible] Society on Jan. 11th, 1899.

Sneezing is the prominent symptom in most cases. It is generally preceded by a tickling or irritation of the nose which, however, the sneezing fit does not always relieve, and in a general way patients do not get the satisfaction out of a sneezing attack which usually accompanies this physiological reflex in the normal condition, and in bad cases it shakes and exhausts the patients so that they perfectly dread the attacks. Some of these patients sneeze a great number of times in succession. Thus one woman who had particularly bad attacks on getting into bed at night and who counted the sneezes at my request, sneezed one night 232 times close together and 72 times after a short interval, and on another night she sneezed 294 times right off. In many cases the profuse thin sero-mucous running from the nose is the most prominent and troublesome feature of the complaint. Accompanying, as it does, the sneezing attacks it may continue after the sneezing has subsided and it may occur independently of any sneezing. The discharge may be very copious and may drip from the nose when the head is bent forward and it may be the sole symptom for which the patient seeks advice. The number of pocket-handkerchiefs used is often mentioned as a measure of the trouble. Thus I find notes of from 30 to 40 handkerchiefs a week being used in one case and 12 or 13 a day in another. The discharge is mostly periodical, occurring every day, often at the same hour, and it may be several times a day. The attack may be ushered in by frontal or supra-orbital pain, a feeling of "pins and needles" across the bridge of the nose and of irritation in the nose. Some sneezing generally marks the onset but sometimes there is little or no sneezing. Various exciting causes—dust, cold air, &c.—may produce the attack. This condition has been called "rhinorrhœa" and remarkable cases have been recorded of an almost continual flow from the nose, amounting to many pints a days, for days and weeks together. I would not say that all cases without exception of rhinorrhœa, or watery discharge from the nose, are allied to paroxysmal sneezing, but with very few exceptions they are. In some cases it is only on careful inquiry that you get any history of sneezing, the patient attributing little importance to it in comparison to the main trouble—the running from the nose. Every gradation, however, exists between one of these cases of rhinorrhœa with only a slightly marked tendency to sneeze and an ordinary case of paroxysmal sneezing.

Although sneezing and running from the nose are the most characteristic symptoms there are many other symptoms which may be present in greater or less degree. There may be a feeling of intense tickling, irritation, or itching in the nose, sometimes confined to one passage. Sneezing may not relieve it and sometimes there is a constant desire to sneeze without the ability to do so. Stoppage of the nose is common. Most patients describe a stoppage at the onset which is relieved by sneezing and running. Many patients have a chronic obstruction of one or both passages more or less marked, but this is a separate matter from the intermittent stoppage of which I am speaking. The ocular symptoms are extremely marked in some cases. The eyes stream with water, one eye sometimes more than the other, and there may be intense irritation or itching of the eyes and a constant desire to rub them. The eyelids may even become puffy and œdematous. Itching and irritation of the inner canthus of one or both eyes is the earliest sign of an approaching attack in some persons. Headache is a common symptom. The pain is mostly referred to the frontal or supra-orbital region and is dull and heavy or neuralgic in character. Some describe the pain as much relieved when running at the nose begins. Irritation and itching of the soft palate and fauces are complained of in many cases. There is one very important group of symptoms from which these patients frequently suffer—viz., oppression or tightness of the chest, wheezing, paroxysmal cough, or definite asthmatic attacks. Of my patients I find that 56, or exactly half, suffered more or less from these asthmatic symptoms. In the great majority of them the paroxysmal sneezing existed for months or years before the asthmatic symptoms appeared. In a few the two sets of symptoms seemed to develop simultaneously. In three of my cases I noted that the asthmatic symptoms existed for some time before the sneezing. Many patients described each attack as being habitually preceded by sneezing. This association of paroxysmal sneezing and asthma has long been recognised. The patients whose cases form the subject matter of this paper were, of course, all more or less pronounced sneezers, but if you were to inquire into a series of cases of pronounced asthma you would get the same evidence of the striking association of this disease with paroxysmal sneezing. It is only on careful inquiry that you will elicit the fact, as asthmatic patients attach little importance to the sneezing symptoms, but in almost all "asthmatics" you will get a present or past history of liability to attacks of sneezing.

Many subjects of paroxysmal sneezing describe the attacks as coming on without any cause that they can assign. Women sometimes find that their attacks are worse at the menstrual periods. In a great many cases the attacks recur at particular periods of the day. The morning is the usual time and most patients have an attack on getting up in the morning. Some begin to sneeze immediately they awake in the morning. Attacks may recur regularly at a particular period of the forenoon or the afternoon. Some always have an attack on getting into bed at night. One of my patients woke up regularly at 4 A.M. with intense irritation in the nose followed by sneezing. One patient always sneezed after meals. Some patients were always worse in London and some were worse in the country; some were worse in winter and some were worse in summer. Most patients were affected by going into bright sunshine. Dust is the most frequently mentioned cause: all kinds of dust, in- and out-door, some being affected more by one than the other. Change of temperature is often assigned as a cause, such as going into hot rooms or out into the cold. Hay, of course, is an exciting cause in many. But the idiosyncrasies of patients in respect of the exciting causes are, as we know, extraordinarily varied. In my notes I find specified such causes as tobacco smoke, the atmosphere of the Underground Railway, roses, sweet peas, lilies, any kind of flowers, bird-seed, linseed cake, furs and skins of animals, the proximity of a cat (especially a Persian), a cold bath, a hot bath, using soap for washing the face, brushing the hair, drinking cold water, the act of talking and singing, violent exercise, &c.; but the possible exciting causes are innumerable and the foregoing list could be added to indefinitely from the experience of patients of this class.

I may now pass from the exciting causes of the paroxysm to the etiological conditions underlying this affection. Looking through my own cases I find that there are 59 males and 53 females, so that the sexes are pretty evenly divided. The cases were of all ages, from three years up to 68 years of age, the majority being between 20 and 40 years. It is of more interest, however, to see at what age the complaint first showed itself, and in 94 cases I have a note on this point. I find that 16 began before 10 years of age, some of them in infancy. 27 cases began between 10 and 20 years of age, 21 between 20 and 30 years, 18 between 30 and 40 years, and only 12 after 40 years of age. 51 cases out of 94, or 54 per cent., commenced before 25 years of age. It is clear that the disease usually develops in the earlier period of life, but it may begin at any age, occasionally at a very advanced age. That the disease is hereditary and that it runs in certain families is very clear. In many of my cases there is a history of similar troubles in parents and grand-parents and various collateral relations. I have already alluded to the close connexion between paroxysmal sneezing and asthma and this is well illustrated by the history of asthma in members of the same family. In 33 per cent. of the cases I was able to get a history of either paroxysmal sneezing or asthma, or both, in one or more members of the family of the patient.

I now come to an important matter—viz., the condition of the nasal passages in these cases. In a certain number of my cases excessive sensitiveness of the interior of the nose when touched with a probe either at certain points or throughout was noted. In many cases, I think in the majority, no such hyperæsthesia was present. Apart from this I find that in the 112 cases there existed some pathological condition of the passages in 104, or nearly 93 per cent. This is a large proportion and I might admit that possibly it is a larger proportion than would be found in the same number of cases taken at random, because I think it possible that I might get a preponderance of cases in which certain symptoms, such as chronic nasal obstruction, were present or in which there was known to be some nasal disease or abnormality. I doubt, however, if this makes a very great difference, as certainly the vast majority came simply on account of the sneezing and running from the nose. At any rate, the proportion in these cases was as I have given it. The following are the various abnormalities noted, and I should like to say that under the head of "septal deflections, crests, and spurs" I do not include every slight deviation or inequality of the septum, for these are extremely common in all persons, but only such as cause obstruction to respiration or such as bring some part of the septum into close proximity or firm apposition with the turbinated bodies. In 40 cases marked deflections, crests, or spurs were the only pathological conditions noted. In 33 cases hypertrophic rhinitis was the chief feature noted, in 12 of which septal deformity coexisted. In 20 cases mucous polypi were present, combined with septal deformity or hypertrophic rhinitis in several cases. Enlargement of the middle turbinal was the chief condition noted in five cases and adenoid vegetations in five cases. In one case there was a remarkable atrophic condition of the mucous membrane and turbinals, not however of the nature of fœtid atrophic rhinitis. There was a profuse, thin, watery discharge in this case and complete anosmia. It will thus be seen that septal deflections, crests, and spurs were the most frequent abnormality, being present not, as I have already said, in a slight or trivial degree, but in a marked degree in 40 cases as well as in combination with hypertrophic rhinitis, mucous polypi, or adenoids in at least 20 other cases. In 22 cases a crest or a spur on the septum was noted as being jammed firmly against the inferior turbinated body. In four of these cases the irritation was felt almost exclusively on the affected side and the running was chiefly from that nostril.

Although there can be no doubt as to the frequency of pathological conditions in the nose in cases of paroxysmal sneezing the question arises whether they are in any degree the cause of the symptoms and how these pathological conditions can give rise to such symptoms. It is well known that such conditions as septal deflections, hypertrophic rhinitis, mucous polypi, &c., exist very frequently without any paroxysmal sneezing and, in fact, it is only in exceptional cases that such symptoms arise. It must be admitted, also, that hypertrophic rhinitis may well develop during the course of the complaint as a result of the frequent congestive swelling which takes place, though, of course, in many of my cases where the symptoms were comparatively recent and the hypertrophy well marked I could exclude this view. I think, too, that in some cases of mucous polypi it was probable that paroxysmal sneezing existed before the development of the polypi and it seems that the complaint favours the growth of polypi. This, however, is the exception. There can, in fact, be no doubt that various pathological conditions are present so frequently in this complaint that in some way or other they unquestionably form an important etiological factor in a large proportion of cases, but, of course, only one factor, since the complaint may arise independently of them, and all these conditions frequently exist without any symptoms of the complaint.

The question then arises, What other factors enter into the causation? The most constant phenomena of the complaint are sneezing and certain vaso-motor and secretory disturbances in the nasal mucous membrane as well as in the conjunctiva and lacrymal apparatus. All these phenomena are capable of being reflexly excited. Sneezing is a familiar nasal reflex. The increased flow in coryzal conditions is partly due to increased glandular secretion and partly to serous transudation from the nasal mucous membrane. It is in part the result of vaso-motor disturbances but not wholly so. The vaso-motor and secretory functions are under the control of the nervous system and are reflexly excited by familiar causes. In the complaint which we are considering all these reflexes are excited by causes which would not act on the normal individual. We may therefore suppose that in these cases there is an undue excitability of certain nerve-centres, owing to which they are called into action by influences which would not otherwise affect them. This may or may not be a part of a general neurasthenia inherited or acquired; in some cases it certainly is, for, as we know, a fair number of these patients are what we term neurotic, though by no means all. It also seems probable that prolonged irritation arising from certain abnormal conditions in the nose may set up this morbid excitability in the nerve-centres connected with the sensory nerves of this region, though here also we are compelled to assume a predisposition in the individual, since intra-nasal disease as a rule does not set up paroxysmal sneezing. That there is this predisposition in many cases is evidenced by the frequency with which we get a history of similar complaints in many members of the same family. This is all I shall say by way of suggestion in relation to this question, merely adding that a good many of my patients date the onset of their symptoms to an attack of influenza which is well known to be capable of disturbing the nervous system in various ways.

I have already alluded to the frequency with which asthmatic symptoms occur in subjects of paroxysmal sneezing and of the close relationship between the two complaints. On this point I may remark that asthma is admitted to be sometimes excited reflexly by nasal disease or irritation. It has been shown by experiments on animals that contraction of the bronchial muscles can be set up by irritating the nasal mucous membrane (François-Franck, Lazarus). In certain cases of asthma it is possible to cause a temporary abatement of the symptoms by the application of cocaine to the nasal passages. This is a fact which I have repeatedly verified for myself. It is probable, therefore, that in many cases the asthma associated with paroxysmal sneezing is of nasal origin and is reflexly excited by nasal irritation, at any rate in the first instance, for when once established there is reason to believe that asthma may be excited by various causes other than the original cause. In some cases the asthma is not a reflex result of nasal irritation but merely a coincident disturbance in the lower part of the naso-bronchial tract. It is probable that in some cases of asthma associated with paroxysmal sneezing the irritants in the air which set up the paroxysmal sneezing act directly on the lining of the bronchial tubes and so excite asthmatic symptoms. I have already alluded to paroxysmal cough as a not uncommon symptom in subjects of paroxysmal sneezing. Cough is another undoubted nasal reflex; it is well known that paroxysmal cough is often a precursor of asthma and it may replace an asthmatic attack.

Before speaking of treatment it will be well to consider for a moment the course of the complaint in its various forms if left to itself. The course of the cases is extremely variable and uncertain and this must be borne in mind in estimating the value of treatment in paroxysmal sneezing. Some cases continue for years or throughout life without any marked change. Cases may get well or undergo marked increase at any period of life. An attack of influenza sometimes causes marked exacerbation of the symptoms. Patients who get well may relapse again after a variable period. There is in most cases apt to be an abatement of the symptoms after middle life, but there is no uniformity in this respect. Some suffer right on into old age. Changes take place, too, with regard to the influence of exciting causes. Certain patients, for instance, state that at one time hay used to affect them severely but that latterly they are no worse in the hay season than at other times. A change in the character of the symptoms is not infrequently noticed, the sneezing symptoms subsiding and an aggravated condition of rhinorrhœa becoming established. Asthmatic symptoms may set in at any time in [illegible] course of the complaint. They usually [illegible] early period [illegible] within the first two [illegible] gone on several years without any symptoms, such as tightness or oppression of the chest or wheezing or paroxysmal cough, are likely to escape, but there is no certainty. Once asthma has definitely appeared it may outlast the coryzal symptoms, the latter disappearing completely while the asthma becomes confirmed. Sometimes the asthmatic and the sneezing symptoms alternate in a curious way.

I must now pass to the treatment of paroxysmal sneezing. I have carefully studied the notes of my cases on this point and I shall endeavour to state the conclusions which I believe may fairly be drawn from a study of them. Only a certain proportion of my cases were fully available for this purpose. Some cases I only saw once and treatment was either not begun or not pursued; others were kept under observation for a short time, too short to judge of the final result but sufficiently long to furnish indications as to the immediate effect of treatment and the influence of palliatives. Some of the cases are too recent to speak of them as "cured" or "permanently relieved," as until at least a year has passed from the cessation of treatment I do not think we should begin to use these terms.

My remarks for the present apply only to the coryzal symptoms; at the end I shall say something of the asthmatic symptoms. The first and most important fact which a study of my cases proves is that a large number of these cases can be cured or so much relieved as to be practically cured, and the second is that this can only be attained by local treatment, by remedying the various morbid conditions which I have already enumerated as being present in so large a proportion of the cases. But for this end the local treatment must be thorough and effective. Now I do not wish it to be understood that every patient suffering from paroxysmal sneezing in whom intra-nasal abnormalities exist should be treated operatively. It depends on the severity of the symptoms and to some extent on the operation required. Some of these patients suffer comparatively little trouble and do not need to be subjected to operation; but if the symptoms are severe, or if for any reason whatever we desire to ensure something approaching a permanent cure, a thorough radical treatment of such intra-nasal morbid conditions as are present is essential. Now we learn as much from studying our failures as we do from studying our successful cases. I have had plenty of failures, but a close scrutiny of them convinces me that the cause of the failure was almost always due to the inadequacy of the treatment. This was not, of course, always my fault. A patient will submit to a few applications of the galvano-cautery when the use of the saw to remove a spur or crest may be objected to, or you may be permitted to remove a few mucous polypi with the snare when the proposal to operate on a coexisting deflected septum will not be accepted, and so on.

There are some cases, the number of which is, however, limited, in which treatment by the galvano-cautery (or escharotics such as chromic acid) will be sufficient. I can only find two cases which could be said to be in any sense cured by this treatment. There was more or less relief noted in 10 cases. Against these I find 12 cases in which no improvement was obtained. Some of them were afterwards improved or cured by other measures. The galvano-cautery is especially indicated for cases where the sole condition is a chronic turgescence or very moderate hypertrophy of the inferior turbinal and where by its use we may be able to prevent contact between these bodies and the septum even when these bodies become congested. It is also useful for cauterising excessively sensitive spots in the mucous membrane, if any such are present. When spurs or crests project from the septum against the turbinals they must be sawn off. Deflections of the septum of all kinds must be so treated that the passage shall be left free for respiration and all possible contact with the turbinals, especially the inferior, shall be prevented. For this purpose the turbinals themselves may have to be partly or wholly removed. When the inferior turbinals are hypertrophied the snare and punch forceps must supplement or replace the galvano-cautery and in some cases complete removal of one or both inferior turbinals is the only plan to adopt, and no theoretical considerations must be allowed to interfere with this procedure if it is desired to relieve the patient. I am convinced of this. If mucous polypi are present they should, of course, be removed and more or less alleviation of the symptoms may be expected, but the patient will not be cured, and perhaps not much relieved, unless other co-existing conditions, such as deformities of the septum or hypertrophied turbinals, are treated. I have collected 31 cases in which I was able to carry out treatment on the lines now indicated. Among these there appeared to be only one case in which there was no relief of the symptoms. 25 cases were completely cured or so much relieved that their symptoms gave them no particular trouble. Some have now continued so for several years. Four were relieved but still continued to suffer in a minor degree from their former trouble. One, though considerably relieved for some weeks after the operation, was lost sight of and cannot therefore be counted. I have a few other cases which promise equally well with the foregoing, but as a year has not elapsed I prefer not to include them.

In contrast with these cases are those in which for various reasons only medicinal treatment was employed. No one admits more freely than I do the presence of a neurasthenic element in many of these cases. I have prescribed all the usual nervine and other tonics which one gives in such cases. Many of the cases operated upon have had a trial of drugs and local applications for a time. I have frequently seen considerable relief as the result of drugs, but anything which could be called a cure—any case in which drugs could be left off and permanent freedom from symptoms be anticipated—I unfortunately have not seen. Still, a great deal of relief can be got from the use of general and local remedies, and for various reasons it is the only form of treatment one can employ in many cases, and they may be usefully employed in conjunction with other modes of treatment. Few complaints have had more remedies vaunted for their relief, and probably most of them are occasionally useful. I need not enumerate them, nor need I refer to the treatment of any general neurasthenic condition which may be present or to such obvious measures as protecting the patient from the known exciting causes by change of residence, &c. I shall content myself with referring to a few remedies which I most frequently employ.

The internal remedies which I believe to be most often useful are quinine, belladonna, arsenic, and iodide of potassium, but I confess that I know of no reliable indications for giving preference to one or other of these drugs in particular cases. I give quinine in moderate doses of from one to two grains three times a day and it certainly sometimes relieves, but more usually I combine it with iodide of potassium or arsenic. Belladonna is often useful and occasionally gives striking results. I generally prescribe the extract in a dose of from one-twelfth to a quarter of a grain two or three times a day. Arsenic is, I think, useful in many cases, though less so than belladonna. A prescription which I employ very often is a pill containing one grain of sulphate of quinine, one-sixteenth of a grain of iodide of arsenic, and one-twelfth of a grain of extract of belladonna, to be taken three times a day, the arsenic and belladonna being increased according to tolerance. I have seen this pill taken through the hay season by patients with marked alleviation of the usual symptoms. Iodide of potassium is especially useful in cases associated with asthmatic symptoms and I always lead off with it in such cases in full doses of, say, 10 grains three times a day; I sometimes combine with it arsenic and quinine.

The local remedies which I have most frequently used are cocaine and menthol. Cocaine, as is well known, if applied at the onset of a paroxysm generally gives remarkable relief, lasting an hour or two. A 4 per cent. solution is sufficient and may be applied with a spray apparatus or on a pledget of wool soaked in the solution. A solution of cocaine in hazeline is sometimes more efficacious. Some caution is necessary in prescribing cocaine as toxic effects are sometimes caused and the prolonged use of cocaine seems to set up a certain kind of nervous irritability. Bearing this in mind, however, and using some judgment we need not discard this remedy which acts as a valuable palliative in severe cases. Menthol is a useful application in many cases and has not the disadvantages just mentioned with regard to cocaine. It dissolves well in a liquid paraffin preparation such as paroleine. A 1 per cent. solution is generally strong enough. It may be used as a spray or may be applied directly on cotton-wool. Menthol-camphor is also useful in 1 or 2 per cent. solution in paroleine. While cocaine should only be used to check severe paroxysms menthol and menthol-camphor may with advantage be used several times a day both during and between the paroxysms.

In conclusion I must say a few words with regard to the effect of intra-nasal treatment upon asthmatic symptoms when these are associated with paroxysmal sneezing. In the majority of cases the asthmatic symptoms were relieved more or less by the line of treatment which relieved the nasal symptoms. In the 31 cases already referred to about half were subject to asthmatic symptoms, either some feeling of tightness or oppression of the chest, some wheezing at times, or definite attacks of asthma. I can only find one who though much relieved of his nasal symptoms got no relief from his asthma which indeed steadily got worse. On the other hand, some though relieved were by no means relieved to the same extent as in respect of the nasal symptoms. I suspect, if we could only know it, that we relieve the asthmatic symptoms in so far as these depend upon reflex excitation from the nose, but it is impossible to say how far this is so in any particular case. As I have already said, it may be so in the early period of the case and not so later. The general conclusion which I have formed on this matter is that in children and young subjects affected with paroxysmal sneezing there is a much better chance of relieving or curing the associated asthmatic symptoms than in older subjects; that the shorter the period during which the asthmatic symptoms have been present and the less pronounced they are the more likely we are to relieve or cure them by the same treatment which relieves or cures the nasal symptoms. Still our prognosis with regard to asthma in these cases should always be guarded.

Upper Wimpole-street, W.

PARALDEHYDE IN ASTHMA.

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As far as I have been able to find out, Dr. Mackie[1] of Elgin was the first to suggest the use of, and to use, paraldehyde for the relief of asthma. "The fact that paraldehyde is a sedative largely eliminated by the breath" led him to try its effect in the spasm of idiopathic asthma. He administered it in a number of cases with uniformly successful results and found that it speedily relieved the spasm and induced sleep. My attention was drawn anew to this a few months ago and since then I have given the drug in a fairly large number of cases of idiopathic asthma and other forms of spasmodic dyspnœa and my experience confirms that of Dr. Mackie. No drug in my hands has given such satisfactory results. In the treatment of hospital out-patients suffering from asthma morphine hypodermically is out of the question and it is not usually advisable to prescribe chloral in such cases. Paraldehyde is absolutely safe. It not only relieves the spasm but it induces tranquil refreshing sleep without any objectionable after-effects. Besides, no evil results follow a prolonged use of paraldehyde; it does not give rise to a habit, and on this account it is a much more desirable drug than morphine or chloral. That it has hitherto not been much used in the treatment of asthma one may safely conclude from the fact that neither in Allbutt's "System of Medicine" nor in "Twentieth Century Practice of Medicine" is it mentioned among the drugs given as useful in the treatment of the disease. I venture therefore to think that the following short notes of a few of the cases in which I have used it may prove interesting and worth recording.

CASE 1.—The patient was a woman, aged 24 years, who had suffered from asthma for four years. The nightly attacks of dyspnœa had always been very severe and protracted. Chloral gave no relief. She had derived most benefit from a mixture containing iodide of potassium, tincture of lobelia, and solution of hydrochlorate of morphia; but this combination and many other remedies gave relief only for a short time and her condition became serious. She was losing flesh, cyanosis was constant, and she was gradually growing weaker. On Sept. 30th, 1898, she was ordered half a drachm of paraldehyde every night at bedtime. When seen a week afterwards she said that since taking the paraldehyde her nights had been very good, that she had had only one attack, and it was a very short one. The dose was doubled and then the attacks ceased. On Jan. 6th, 1899, the note in the case-book says: "She continued to take the paraldehyde up to Nov. 18th and has taken none since. Her nights are invariably good. Now and then she has a slight wheezing attack which lasts only for a few minutes. She has put on flesh and her colour is quite rosy."

CASE 2.—The patient was a woman, aged 37 years, who had been ill for three months; there was a family history of phthisis. At first the attacks of asthmatic dyspnœa came on chiefly after meals and for a time they were relieved by iodide of potassium and tincture of lobelia. In this case and in several others an occasional dose of a carminative mixture seemed greatly to increase the effect of the other remedies. Very soon the latter had little or no effect, she became much worse and the dyspnœa and laboured breathing prevented sleep. Half a drachm of paraldehyde, repeated in an hour, gave tranquil, refreshing sleep. She continued to take paraldehyde for several weeks and the last note of her case says: "Her nights are good and she reports herself to be ever so much better."

CASE 3.—The patient was a woman, aged 36 years, who had suffered from bronchitis off and on for nearly three years. An uncle was asthmatic. She had had a severe attack of influenza in January, 1898. She was first seen on Nov. 15th and she stated that for three months she had suffered from attacks of dyspnœa coming on suddenly during the night, usually about 1 A.M.; she awoke struggling for breath, the attack, with much wheezing and laboured breathing, lasting often for 12 hours or longer. She had had a very bad attack the night before her visit and she was still decidedly cyanotic, but on examination no adventitious sounds were heard in the lungs and the heart was normal. A mixture containing iodide of potassium was ordered to be taken during the day and paraldehyde at bedtime. When next seen, on Nov. 22nd, her report was: "I feel much better, I sleep all night and wake feeling so refreshed." On Nov. 29th the report states that a severe attack occurred on the night of the 26th, the usual dose of paraldehyde induced sleep only for a very short time, and although sleep for the rest of the night followed a second dose the asthma recurred when she awoke and continued till the following evening. She was last seen on Jan. 3rd, and she then stated that she was quite well, that she had not taken paraldehyde for a week, and that she now slept well all night. There had not been an attack since the one mentioned above.

CASE 4.—The patient was a man, aged 44 years, who had suffered from asthma for nearly two years before coming under observation. At first the spasmodic attacks occurred about 2 A.M., but lately they had come on frequently during the day. The lungs were emphysematous and he also had got a mitral systolic bruit. At first he was given paraldehyde and nothing else. More sleep was the result but it was somewhat restless, and he often awoke wheezing, coughing, and retching. He was then ordered a mixture containing iodide of potassium and tincture of lobelia to be taken during the day and the paraldehyde at bedtime. Under this he improved immensely, and a note made after adopting this treatment says that "the nights are good and breathing easy during the day. Has been at work for a week."

CASE 5.—The patient was a woman who had suffered from asthma for four years. Her father had been asthmatic for 20 years and six of his eight children suffered from the same disease. The nocturnal paroxysms were very severe and in addition to the usual characteristic symptoms there was a patch of catarrhal pneumonia at the base of the left lung. She was ordered an expectorant mixture with iodide of potassium during the day and paraldehyde at night. On each of the first two nights almost immediately after taking the paraldeyde she fainted but slept quietly all night. After that the drug did not cause even a feeling of faintness but gave the patient quiet nights and there was no recurrence of the asthmatic attacks.

CASE 6.—The patient was a woman, aged 47 years, stout, flabby, and very neurotic; she was first seen on Nov. 5th, 1897, when she stated that she had suffered, off and on, for several years and had been gradually getting much worse. Her father was asthmatic and so was a sister who, she said, died in an attack for which she was given morphia hypodermically. At her first visit this patient was cyanotic, her breathing was noisy and laboured, and the usual pulmonary signs were present in a marked degree. For a time she was much relieved by iodide of potassium and tincture of lobelia. After an absence of several months she returned for advice on Sept. 30th, 1898. Sl [illegible] then h [illegible] least one severe attack of asthma each [illegible] fits of sneezing. She was [illegible] hyde each night. For three nights she slept well, but after that the drug caused excitement. The dose was doubled, she then slept very well and the breathing was much improved. The sneezing fits ceased after she began to take the paraldehyde.

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[1] Brit. Med. Jour., vol. i. p. 65, 1893.

Case 7.—The patient was a man, aged 36 years, who had been ill for 11 months. Asthmatic symptoms came on after an attack of influenza. He complained of shortness of breath, cough, loss of flesh, and night sweats. He said that he "could get no sleep because of the cough and the struggle for breath." He was given iodide of potassium during the day and a drachm of paraldehyde at bedtime. A week afterwards he reported himself to be much better and said that he now slept comfortably all night. The note in the case-book a month after he began the treatment says, "He sleeps well and is putting on flesh; he has gained 6 lb."

Case 8.—The patient was a man aged 34 years who had been ill for two years. He complained of a very bad cough, profuse expectoration, and loss of flesh. He also stated that frequently during the night he had to spring out of bed because of a sudden sense of suffocation which ended in a severe and prolonged fit of coughing. He was ordered the same treatment as in the last case but only four doses of paraldehyde were given. When seen a week afterwards he reported that during the first two nights his sleep had been unbroken, that the next two nights it had been very good, and that although without paraldehyde for the three following nights he had had no attack and was able to lie quietly in bed all night.

Case 9.—The patient was a woman, aged 30 years. She was neurotic and had been ill for three months. She was first seen on Dec. 6th, 1898. An aunt had suffered from asthma for 18 years. This patient complained of a painful sense of tightness in the chest, shortness of breath, and a troublesome cough, and she was subject to severe attacks of spasmodic dyspnœa during the night. The same treatment was ordered in this case. Immediately after taking the first dose of paraldehyde she fainted and had to be lifted into bed. She said that "the medicine was so strong that it took her breath away," but the result was that she slept all night. She did not continue the paraldehyde, but with iodide of potassium, &c., she improved and on Jan. 3rd, 1899, the report said that she was ever so much better and sleeping well.

Case 10.—The patient was a woman, aged 34 years, who had suffered from asthma more or less for 14 years. She had had three attacks of rheumatic fever. The heart was normal. At her first visit she was very cyanotic, the shortness of breath was distressing, and the breathing was noisy and laboured. The symptoms were greatly aggravated at night and made sleep practically impossible. An expectorant mixture during the day and paraldehyde at night gave marked relief; she was able to sleep comfortably, and the breathing soon became easier. She continued to take paraldehyde for some weeks and always with benefit; the cough disappeared, and after a time she was able to dispense with both the expectorant and the paraldehyde.

Case 11.—The patient was a woman, aged 43 years. She had suffered from asthma and bronchitis for five years. In her case the symptoms were severe, the cough was troublesome, and she got very little sleep because of the attacks of spasmodic dyspnœa which were frequent and painfully distressing. In addition to an expectorant mixture she was given a drachm of paraldehyde at bedtime. The latter medicine, to use her own words, gave her beautiful nights and she always felt so refreshed after the sleep.

The mere obtaining of sleep is of great importance for the asthmatic patient, the strength is saved and what is lost during the day may be more or less regained. The prevention of the spasm is even a greater boon, seeing that each attack increases and prolongs the accompanying bronchitis. Iodide of potassium and tincture of lobelia as a rule do much to relieve the bronchitis and to lessen the spasm, but their effect is immensely increased by securing sleep and the prevention of the nocturnal spasms by means of paraldehyde. The drug occasionally causes sickness and for this reason it proved of no use in a severe case of long standing bronchitis and emphysema. Its disagreeable pungent taste makes it objectionable to children and nervous patients, but it is well disguised in cinnamon water and tincture of orange-peel. It acts as a rule so rapidly that the dose ought to be taken after the patient has gone to bed. In the case of more than one of my patients it seemed to act immediately and for this reason one nervous man suffering from simple insomnia refused to continue taking it. In adults I find it best to begin with a dose of 60 minims, and as Dr. John Gordon[2] pointed out, as a result of his experimental use of the drug, the same dose has equally good hypnotic effect when it has been taken for months. Although Dr. Gordon does not mention asthma among the diseases in which he found paraldehyde useful as a hypnotic one of the results of his investigations might suggest its use in this disease. He found that it produced tranquil sleep with diminished respirations and in his paper on the subject he says, "This slowing of the respirations in many pulmonary diseases is of distinct advantage." He further says, "It is possible that, since a large amount of the drug is excreted by the lungs, its vapour may exercise a narcotic influence on the terminations of the sensory nerves of the lung tissue while it is being expired." One can, therefore, easily understand how, by its double action of inducing sleep and preventing pulmonary spasm paraldehyde has such a powerful effect for good in asthma.

ON THE TREATMENT OF "UNAVOIDABLE HÆMORRHAGE" BY REMOVAL OF THE UTERUS.

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I have spent much of my leisure during the last few weeks in looking up the authorities on "placenta prævia" for some assured statement concerning its mortality. There is nothing more definite than is to be found in Simpson: "All obstetric authors seem to agree on this point, *that there* is no one complication in midwifery attended with more anxiety to the practitioner and few, if any, with more real danger to the patient than cases of unavoidable hæmorrhage from presentation of the placenta." He proceeds to give figures which go to show that the fatality is close on 40 per cent., but I gather from the smothered confessions of other writers and the open admission of my friends who have had large obstetric experience that it really is much higher; and in spite of the sound principles laid down for its treatment and the improvements therein made by Simpson himself it is probable that more than half the cases die. I have all my life avoided in every possible way contact with obstetric practice, and for 30 years have had no personal association with it save in occasional consultations. Amongst these have to be included 13 (now 14) cases of unavoidable hæmorrhage and of this the mothers have died in seven cases and, I think, only three of the children were born alive. It will therefore not be a matter of surprise if I say that I entirely agree with the sentence which I have quoted from Simpson's "Obstetric Works." I feel pretty sure that the full mortality of the condition is not yet known, so many patients die from the secondary complications due to the damage of the misplaced placental sinuses; and as these cases are generally not fatal till many days *after delivery they* are not returned as cases of "placenta prævia" but as peritonitis, &c. I gather from conversation that only immediate deaths are as a rule entered under the real and primary cause. This is of itself a point of interest about the condition, but not one which concerns me much, though evidently the higher the total mortality is found to be, primary and secondary, the stronger will be my subsequent argument from this point of view.

Another aspect from which "unavoidable hæmorrhage" is extremely interesting is that it is one of the few points in the practice of surgery where our conduct may be influenced by ecclesiastical authority. The Church of Rome rules that in such a case the living birth of the child is all important and when the interests of mother and child conflict those of the former must yield. In one case to which I was called by the late Dr. Wynne Thomas this decision, arrived at by the mother and the father of the child, as advised by their spiritual directors, seemed to us to cost the mother her life though it did save the child. Under such circumstances that part of the treatment directed against the immediate risk from hæmorrhage has its influence for good directly contravened and probably entirely annulled by the causes introduced and the risks produced of secondary mortality. All these conditions existed in a case to which I was called on Dec 21st, 1898, by Dr Herbert Simpson of Rugby. The patient was young and slightly built and had as bad a history of hæmorrhage as a woman well could have She had always had "something wrong" inside and had been a regular consumer of ergot for years She had been twice curetted and cauterised She had nearly lost her life from post partum hæmorrhage in her second confinement, had had several miscarriages with severe losses, and I found her in her fourth confinement at the full time with the cervix closed and rigid, the liquor amnii drained off, the uterus firmly contracted over the child, and yet she had been bleeding with alarming profusion for five hours, in spite of many other and orthodox points of treatment which Dr Simpson had employed The child was easily ascertained to be alive and the considerations of its interest as superior to that of the mother were not pressed by anyone But I confess that the recollection of previous experiences made me hesitate to do what was clearly necessary, forcibly dilate the cervix and extract the placenta, whether I followed that by version or not, whether or not I left the after labour to nature and the child to its fate An alternative occurred to me to which I was prompted by the splendid success which has followed it in my hand and in those of others under different yet very analogous circumstances—removal of the uterus It had many arguments in its favour, it would save the child, it probably would save the mother, and it would relieve her of the condition of perpetual misery and risk in which she had been living for years and would therefore assist her in properly rearing the children she had, rather than tend to procreate others to whom she certainly showed no likelihood of ever being able to give proper care There were no arguments against except the familiar one of "mutilation" As I have already characterised that as the argument of the brothel keeper rather than one for the consideration of the physician I attach little importance to it Putting myself in the place of the patient's husband, so far as I could, I felt that the Church of Rome had some reason for its decision, though more as a matter of right than of salvation—that any proceeding which would diminish the mother's risk from 50 per cent. or 40 per cent, or even 20 per cent to four or five per cent must be selected Finally, the argument would have been overwhelming with me as a husband that my wife would have health and comfort for her after life, instead of misery and risk, irrespectively of sterility or mutilation or anything else I therefore proposed hysterectomy, and after full discussion it was accepted by Dr Simpson, by the husband, and by the patient I performed it with the aid of the elastic ligature[1] by that known in America as the "Tait Porro" operation The patient made a straightforward recovery, interrupted only by occasional rectal distension A fine female child was born alive and lived for a month, succumbing, unfortunately, a month after birth when the cold weather distributed bronchitis

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[2] Contributions to the Study of Paraldehyde, Brit. Me Jour., March 9th, 1889.

This case forms, so far as I know, a new departure Whether it will receive a universal commendation is not the least a matter of doubt The "mutilationists" will *raise* their voices against my proposal, but there are others who will follow my example and to those who *do this* will surely come the comfort that they will diminish "the anxiety to the practitioner and the real danger to the patient" of the obstetric difficulty which Simpson so graphically tells us has more of both than any other

Birmingham

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[1] On the Surgical Aspect of Impacted Labour by Lawson Tait, Brit Med Jour March 22nd 1890 p. 657 The operation may be thus briefly described and as the relation of parts are bound to be always the same there is nothing easier After a four inch incision is made as usual for abdominal section a loop of drainage *tube is carried over* the uterus *and down to the pelvic sulcus* *This is tightened sufficiently* to strangle the circulation and then tied The uterus is then opened and the child and placenta are delivered The uterus is then drawn out of the abdomen a stout needle is passed through the cervix immediately above the ligature the body of the uterus is cut away the stump is fixed in the angle of the wound the latter is accurately closed after the necessary cleansing, and the stump is dressed with perchloride of iron or other desiccant The whole thing is over in five minutes *being about* the easiest and simplest operation in surgery

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MEDICAL MAYOR—Mr H. C. Barclay, M D, Ch B Univ New Zealand, of Waimate (South Canterbury), N Z, has been elected mayor of his municipality

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NOTES ON THE PRESENCE OF TH BACILLUS COLI AND OTHER ORGANISMS IN THE TISSUES AFTER DEATH.

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THE presence of micro organisms in the viscera after deat apart altogether from the putrefactive varieties, which not, as a rule, appear for several days, is a very commc occurrence The true significance of their presence is no however, clear, nor is it definitely known whether the appearance is a post-mortem or an ante mortem phenomeno Most observers, however, regard the invasion as taking plac during the last hours of life and this theory is supported l the work of Beco[1] who, examining bodies from one quarter t three quarters of an hour after death, found the bacillus co in the deep organs in nearly 50 per cent of the cases Wl in some cases the organs should be invaded by micro organisms whilst in others almost exactly similar the should escape is not clear, nor is it known wh certain organs should be attacked and others sparec The invasion of the deep organs by the bacillus coli and i escape from its natural habitat, the intestines, which wa formerly regarded as consequent upon some intestinal lesior has more recently been attributed to the spread of th bacilli through the biliary channels, it being generall accepted that they are not able to pass through the health wall of the gut The question of the method of thei escape and multiplication is one of some importance a bearing upon these cases of suppuration in which durin life the bacillus coli is the only organism to be foun and also in relation to the inquiries, Is infection by th bacillus coli a common complication in certain diseases and Is it capable of giving rise to symptoms or hastenin death?

During six months I have made systematic bacterio logical examinations of the organs in the necropsie at the Bristol Royal Infirmary with a view to elucidatin some of these points The appended tables are compile from notes on the first 50 cases Of these 50 cultures 1 were sterile, the bacillus coli alone or associated with othe organisms was found in 20, whilst 13 showed other varieti of bacilli or cocci

TABLE 1—*Cases in which no Micro organisms were found*

Disease	Hours after death	Organs examined
Chronic alcoholic syncope	21	Spleen and kidney
Accident, ruptured bladder	21	Spleen
Stricture of the urethra hydronephrosis	12	Kidney and spleen.
Enteric fever	?	Spleen
Cerebral tumour	24	Kidney
Chronic endocarditis	18	Kidney
Bronchitis	9	Spleen and kidney.
General tuberculosis	32	Brain and spleen.
Carcinoma of the bladder	20	Liver
Septic peritonitis	30	Spleen
Lumbar abscess hip joint disease	31	Spleen
Intestinal obstruction Meckel's diverticulum	12	Liver
Carcinoma of the liver	?	Liver and spleen
Spinal caries	15	Spleen and kidney
General tuberculosis	20	Spleen.
Urethral fever stricture cystitis, &c.	19	Spleen.
Phthisis	18	Heart and kidney

[1] Annales de l Institut Pasteur, 1895.

The average time after death at which the examinations were made was 20 hours, whilst in the remaining 33 cases the average was 24 hours. It is possible that the difference in time may to some small extent have been a factor in determining the sterility of some of the cultures, for after death such organisms as may be in the tissues multiply rapidly, so that the longer the time that has elapsed the greater is the chance of inoculating the culture medium. In 10 cases only one of the viscera was examined. This again would lessen the chance of detection and it is possible that in the cases with intestinal lesion (enteric fever, intestinal obstruction, and septic peritonitis) failure may be attributed to one or both of these causes. After making such allowances, however, the fact is established that under ordinary conditions of temperature and surroundings in a considerable percentage of cases the tissues may remain free from bacterial invasion for a period of from 24 to 36 hours after death.

The bacillus coli was found in 40 per cent. of the cases, as is shown in Table II. From the rapid growth in gelatin, formation of gas in glucose gelatin, from the power of coagulating milk and giving the indol reaction, the bacilli were shown to belong to the Escherich group. Alone no one of these tests is to be relied upon, the indol test being particularly fallacious. A valuable means of distinguishing between bacteria of the Escherich and Gärtner groups is the difference in their reaction to typhoid serum, the former never giving a positive reaction, whilst the latter generally does so at ordinary dilutions.[2] Of the bacilli tested only one of the present series gave a typical reaction with a dilution of one in 50, whilst three other cultures exhibited loss of movement but no typical clumping. The bacilli which gave a typical reaction were taken from the case of carcinoma of the bladder; they in all other respects behaved as members of the Escherich group.

TABLE II.—*Cases in which the Bacillus Coli was Present.*

Disease.	Hours after death.	Organs examined.	Organisms found.
Peritonitis, middle-ear disease, and pneumonia	12	(*a*) Lung and ear. (*b*) Peritoneum.	(*a*) Diplococcus. (*b*) Bacillus coli.
Gastric ulcer and chronic nephritis ..	18	(*a*) Kidney. (*b*) Spleen.	(*a*) Sterile. (*b*) Bacillus coli.
Enteric fever and pneumonia	?	Spleen and right apex.	Bacillus coli.
Enteric fever	20	(*a*) Spleen. (*b*) Liver.	(*a*) Bacillus coli. (*b*) Sterile.
Gastric ulcer and perisplenic abscess	34	Spleen.	Bacillus coli.
Enteric fever, pneumonia, and middle-ear suppuration ...	36	(*a*) Lung. (*b*) Ear, kidney, and spleen.	(*a*) Bacillus coli and staphylococcus. (*b*) Bacillus coli.
Infantile diarrhœa and pneumonia ...	24	Spleen.	Staphylococcus and bacillus coli.
Ulcerative colitis ...	30	(*a*) Liver. (*b*) Spleen.	(*a*) Bacillus coli. (*b*) Sterile.
Morbus cordis and chronic peritonitis	31	(*a*) Kidney. (*b*) Liver.	(*a*) Sterile. (*b*) Bacillus coli.
Hydatid of the liver and suppuration of the gall-bladder, &c.	26	Kidney and gall-bladder.	Bacillus coli.
Marasmus	20	Liver and spleen.	Bacillus coli.
Pleurisy and ascites	27	(*a*) Spleen. (*b*) Liver.	(*a*) Sterile. (*b*) Bacillus coli.
Carcinoma of the bladder	24	Spleen.	Bacillus coli.
Alcoholism, fatty liver	18	(*a*) Spleen and liver. (*b*) Kidney.	(*a*) Sterile. (*b*) Bacillus coli.
Acute peritonitis ...	24	Peritoneum.	Bacillus coli and bacillus mesentericus, &c.
Sarcoma of the stomach	24	(*a*) Spleen. (*b*) Kidney.	(*a*) Sterile. (*b*) Bacillus coli.
Intussusception ...	—	Kidney.	Bacillus coli.
Chronic nephritis ...	24	Kidney.	Bacillus coli.
Acute phthisis... ...	30	(*a*) Spleen. (*b*) Kidney.	(*a*) Bacillus coli. (*b*) Staphylococcus pyogenes aureus.
Pneumonia	20	(*a*) Lung. (*b*) Spleen.	(*a*) Pneumococcus and bacillus coli. (*b*) Pneumococcus.

It will be seen from Table II. that it is comparatively rare to find other organisms associated with bacillus coli in the same tissues. Beco has shown this to be due to the fact that after death the abundant growth of bacillus coli tends to extinguish any other forms which may originally have been present. This is a point of practical importance, for the post-mortem discovery of bacillus coli in a suppuration might lead to the supposition that this was the cause of the lesion, whilst the true determining cause may have been pyogenic cocci which have since perished. The finding of bacillus coli after death does not warrant the conclusion that it was the exciting cause of the lesion during life. It seems probable, too, that pure cultures of bacillus coli obtained from suppurations during life may in the same way lead to erroneous diagnosis. It is noteworthy that in 14 of these cases an intestinal lesion existed which might possibly have been the channel of infection. Of the remaining six cases 13, 14, 16, and 18 had abdominal viscera affected, 19 and 20 had no abdominal lesions. A culture of bacillus coli given to me by Mr. F. Wallis Stoddart who obtained it direct from Escherich's laboratory has been of much service in the work of distinguishing between the various coliform bacilli.

With regard to enteric fever (six cases) bacteriological examination for the detection of the Erberth-Gaffky bacillus was only successful in two cases, in both of which it was found in the spleen 24 hours after death. The method of isolation adopted was that of halo colonies, as recommended by Mr. Stoddart.[3] The other four post-mortem examinations were conducted from 24 to 36 hours after death and the cultures showed the wide and general distribution of bacillus coli which in one case was found in the kidney, in consolidated lung, and in a middle-ear suppuration. To ensure success cultures for the discovery of Erberth's bacillus should be made as soon as possible after death, preferably from the spleen. For differentiation from coliform bacilli the tests relied on were Widal's reaction and the non-production of indol, of gas-bubbles, or of clot in milk.

The second of the diphtheria cases (see Table 3), although diagnosed both clinically and at the post-mortem examination as diphtheria, was probably a membranous laryngitis of coccal origin. Klebs-Löffler bacilli were not present in either ante- or post-mortem cultures. The presence of the specific bacillus in the consolidated lung of three of the cases points to the possibility that the pneumonic condition may depend as much upon their presence as upon that of pneumococcus or of pyogenic organisms. The futility of purely local treatment of the disease is demonstrated by the presence of Klebs-Löffler bacilli in the enlarged cervical glands. Kanthack and Stephens[4] say that this is a common occurrence. They found also the organism present in pneumonic lung in 100 per cent. of cases, in the kidney in two out of three cases, and in the spleen in 10 out of 21 cases. In both of the cases mentioned above in which the spleen was examined the cultures remained sterile. During the progress of a case of diphtheria in life there is a tendency as convalescence approaches for the bacilli to alter in character, to become shorter, uniformly staining, and

TABLE III.—*Cases of Diphtheria.*

Hours after death.	Organs examined.	Organisms found.
21	(*a*) Lung. (*b*) Cervical glands.	(*a*) Streptococci, Klebs-Löffler bacilli (short), cocci, and bacilli. (*b*) Streptococci and staphylococci and short *Klebs-Löffler* bacilli.
12	(*a*) Larynx. (*b*) Lung. (*c*) Spleen.	(*a*) Short bacilli not resembling bacillus Klebs-Löffler, staphylococcus aureus. (*b*) Streptococcus, staphylococcus aureus and citreus. (*c*) Sterile.
12	(*a*) Lung. (*b*) Spleen.	(*a*) Staphylococci and streptococci, Klebs-Löffler and other bacilli. (*b*) Sterile.
28	Fauces, bronchus, and lung.	Klebs-Löffler bacilli (short) and staphylococcus pyogenes aureus.

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[2] Durham: THE LANCET, Jan. 15th, 1898.

[3] Journal of Pathology and Bacteriology, June, 1897.

[4] Ibid.

generally atypical. This change was marked in all three of the cases examined, alike in the bacilli obtained from the membrane and in those cultivated from the tissues.

TABLE IV.—*Pyogenic or other Organisms.*

Disease	Hours after death	Organs examined.	Micro-organisms.
Ulcerative endocarditis ...	20	Kidney, spleen, and heart.	Staphylococcus pyogenes albus.
Empyema ...	31	Spleen.	Ditto.
Retroverted gravid uterus, cystitis, &c. ...	21	Spleen.	Staphylococcus citreus.
Acute infective osteomyelitis ...	12	Spleen, operation wound, and pleuritic abscess	Staphylococcus pyogenes aureus.
Traumatic peritonitis	12	Peritoneum	Staphylococcus
Malignant disease of the pancreas ...	20	(a) Spleen. (b) Liver.	(a) Bacilli (?) with spores (b) Sterile

One or other variety of staphylococcus (see Table 4) was most commonly developed. This is of interest in connexion with such diseases as ulcerative endocarditis and acute infective osteomyelitis in which the value of treatment by anti-streptococcic serum might be tested.

Clifton, Bristol.

RECOVERY AFTER BULLET WOUND OF THE HEAD AND DESTRUCTION OF BRAIN TISSUE.

BY ROBERT FENNER, L.R.C.P. EDIN., M.R.C.S. ENG.,

LATE SURGEON TO THE CROMER COTTAGE HOSPITAL.

ON the evening of July 10th, 1897, a man, 42 years of age, who was watching some youths at revolver practice, was accidentally shot from a distance of two yards. Arriving on the spot about 30 minutes subsequently I found him insensible, breathing slowly and somewhat heavily but not stertorously. His pupils were dilated and did not react to light. He was bleeding from the mouth and blood was oozing from the nose. At the back of the head, about one and a half inches to the right of the middle line and two inches above a line touching the upper margin of the external auditory meatus, there was a contused somewhat clean-cut wound from which blood was oozing and brain matter protruding. Having cut the hair and carefully cleansed and dressed the wound, rendering it as aseptic as possible, I caused him to be conveyed to the Cromer Cottage Hospital, a distance of two and a half miles. On admission he was practically in the same condition as above described but the pulse was slower and scarcely perceptible. Under an anæsthetic and with the assistance of Mr. H. C. Dent I exposed the wound by a large crucial incision through the scalp, turning up the four flaps well out of the way. Having thoroughly irrigated the wound and removed the protruding brain substance I found a circular and jagged hole in the skull admitting the little finger to the first joint. There was much splintering of the inner table and I could feel several large splinters of bone but no bullet even with a probe, although I could follow its track in a direction pointing to the right margin of the left orbit until the probe impinged upon hard bone. I now applied a large trephine and removed a circle of bone, taking in as much of the bullet wound as possible. Having removed several fragments of bone I made a careful examination of the track with my finger, passing it as far as I could reach into the cerebral substance, but I did not reach the bullet nor could I feel it with a long probe. The wound was copiously irrigated with a corrosive sublimate solution (1 in 4000), the nozzle of the irrigator being passed well into the brain, the flaps were sutured, and a small drainage-tube was left in position. The patient passed a quiet night but remained unconscious, blood continuing to ooze from the nose and mouth. On the following morning (July 11th) he had partially regained consciousness but was irritable and was aroused with difficulty. The pulse-rate was 52 and the respirations were 16. Hæmorrhage continued from the nose and mouth and the eyelids on both sides were much swollen. The next day the patient remained in an irritable condition, taking nourishment with difficulty. He was very restless and complained of pain in the head when questioned. The temperature was 101° F.; the pupils were equal but not reacting to light. The wound was dressed. There had been much oozing of blood and as the flaps were bulging two stitches were removed. On July 14th the temperature was 100°. Both eyes were ecchymosed. The bleeding from the nostrils and mouth had ceased. The pupils were equal and reacting to light. The pulse was 54. The patient was still irritable. Much brain substance was removed with this and subsequent dressings.

The patient remained in the same irritable condition until July 18th when he spoke rationally and could recall past events. He still complained of headache and was very drowsy and roused with difficulty. He had complete control over his bladder and bowels; his retinæ were examined and found to be normal, the reflexes were present and normal, and his senses of smell and taste were unimpaired. His temperature remained at 100° or over until July 21st when it gradually reached the normal. Bleeding from the nose ceased and by July 28th ecchymosis of the left upper eyelid alone remained. The patient gradually recovered strength and although somewhat irritable and childish he remembered past events perfectly and was quite rational. The hernia cerebri gradually became covered with healthy granulations and was completely healed by August 20th, at which date he left the hospital.

One year after the accident—viz., in July, 1898—the patient suffered from a slightly ataxic gait and an inability to see the left half of objects but otherwise he seemed none the worse for the injury.

This case illustrates the great amount of damage which can be borne by the cerebral substance provided the floor of the fourth ventricle and the sinuses are left intact. The bullet must have been flattened and irregular, having passed through a felt hat and the skull before ploughing up the brain substance. The course of the bullet was slightly upwards and to the left and the amount of bleeding from the nose and mouth and into the soft tissues surrounding the eyes point to the great damage sustained by the anterior fossa of the base of the skull. Although the chances of recovery appeared to be *nil* I trephined at once in order to anticipate tension and for the purpose of effective antisepsis and drainage.

I heard from the patient at Christmas, 1898—18 months after the accident—that with the exception of the partial loss of vision referred to he was completely restored to health and able to carry on his vocation. Dr. Johnson Taylor of Norwich kindly examined the patient's eyes and writes: "Your patient has left lateral hemianopsia due in all probability to an injury to the right optic tract or possibly to an injury to his right visual centre in the occipital lobe. The right half of each field and the central visual activity of each eye are normal. He reads $\frac{6}{6}$ with either eye and his accommodation is good. The ophthalmoscope shows a normal state of each fundus and the movements of the globe are normal; no other of his special senses seem in the least affected."

New Cavendish street, W.

THE INFLUENCE OF RAINFALL ON BERI-BERI.

BY P. N. GERRARD, M.D. DUB.,

DISTRICT SURGEON, ULU SELANGOR, FEDERATED MALAY STATES.

THE prevailing opinion amongst so many as I have had the pleasure of meeting of the members of the profession practising in the Malay Peninsula, where this disease causes such a very large number of deaths yearly, seems so much in favour of the supposition that cases of beri-beri occur more frequently during or after a wet month or that the severity of the cases is increased after wet weather that I have been led to collect the cases occurring in my district (Ulu Selangor, Malay States) for the past seven years. I have constructed a chart of the rainfall and beri- [illegible] for analysis and I hope to elicit remarks from other medical men who have had to deal with this most interesting and, I think I may say, badly understood disease. The total number of cases in the chart amounts to 2422, extending over 84 months from February, 1891, to December, 1897, inclusive.

Calling the months in which a rise or fall of rainfall was accompanied by a similar rise or fall of beri-beri admissions, "Positive" evidence, and the contrary, "Negative," I obtained the following figures:—

Months.	Positive.	Negative.
6 Januaries	3	3
7 Februaries	1	6
7 Marches	3	4
7 Aprils	3	4
7 Mays	3	4
7 Junes	4	3
7 Julys	5	2
7 Augusts	2	5
7 Septembers	4	3
7 Octobers	4	3
7 Novembers	0	7
7 Decembers	1	6
Totals	33	50

This we may, I think, fairly consider as our first contradiction to the original proposition that "the rainfall influences beri-beri or the cause of beri-beri." Of the 83 months in this list we have only 33 showing positive evidence as against 50 showing negative; some of these, too, show such ill-balanced proportion that they may be fairly excluded, as is shown in the following table*:—

In June, 1891, beri-beri shows a fall of 1 admission and rainfall 12 in.
" July, 1892, beri-beri " " 2 cases and rainfall 10 inches.
" June, 1895, beri-beri " " 13 cases and rainfall 1 inch.
" May, 1896, beri-beri " " 5 cases and rainfall 8 inches.
" February, 1897, beri-beri shows a *fall* of 23 cases and rainfall 2 in.
" October, 1893, beri-beri shows a rise of 4 cases and rainfall 10 in.

* The word "fall" in this table means diminution both with regard to beri-beri and rain—e.g., in June, 1891, one case less of beri-beri was admitted than in the preceding month and 12 inches less rain fell than in the preceding month.

Deducting these cases from the positive evidence we get 27 months positive, six months neutral, and 50 negative, and, in fact, these six neutral may be treated as negative evidence. As an example of how I have arrived at the positive + or negative – evidence I quote in the following table the year 1892 as a sample, 1891 being one month short (where beri-beri rises and rainfall also rises the evidence is positive, the contrary negative):—

Month.	Evidence.	Beri-beri.	Rainfall.
January ...	Positive	Fell 32 to 16 cases	Fell 28 to 13 inches
February ...	Negative	" 16 " 13 "	Rose 13 " 15 "
March	"	Steady (13 cases)	" 15 " 20 "
April	"	Rose 13 to 17 cases	± 20 inches
May	"	" 17 " 42 "	± 20 "

The next point of contradiction I wish to draw attention to is that during the seven years under consideration the months in which the greatest amount of rain fell were not the months on which the greatest number of admissions took place, nor were the months next following the heaviest rainfall the correspondingly highest in admission except in one case—namely, in the seven Decembers during which taken together 99 inches fell, followed in six Januaries by a total of 232 cases, 232 being the fourth highest total of admissions and 99 the fourth highest of rainfall; this is a sop to the supporters of the "after rain beri-beri increase" theory, but it has not very much weight when it is considered that in the case of the other months (seven of each), altogether 70 months out of a possible 83, the highest rainfall does not correspond with highest beri-beri; nor is highest rain followed the next month by beri-beri. The highest rain occurred in seven Octobers, accompanied by the seventh highest number of admissions of beri-beri and followed by the second highest number of admissions in seven Novembers. The second highest rain occurred in the seven Aprils accompanied by the fifth highest beri-beri list and followed immediately by the third highest beri-beri list in the seven Mays. The third highest (Novembers) rain accompanies the second highest beri-beri and is followed by the highest beri-beri (Decembers). The fourth maximum rain (Decembers) accompanies the highest and is followed by the fourth maximum beri-beri. The fifth maximum rain accompanies the third highest beri-beri and is followed by the ninth beri-beri; the sixth rainfall accompanies the eleventh beri-beri and is followed by the seventh beri-beri; the seventh rainfall accompanies the ninth beri-beri and is followed by the tenth beri-beri; the eighth rainfall accompanies the sixth beri-beri and is followed by the fifth beri-beri; the ninth rainfall accompanies the twelfth beri-beri and is followed by the eleventh beri-beri; the tenth rainfall accompanies the tenth beri-beri and is followed by the twelfth beri-beri; the eleventh rainfall accompanies the eighth beri-beri and is followed by the sixth beri-beri; the twelfth rainfall accompanies the fourth beri-beri and is followed by the eighth beri-beri. The maximum monthly rainfall for the seven years was in the following order: first Octobers, second Aprils, third Novembers, fourth Decembers, fifth Mays, sixth Septembers, seventh Junes, eighth Marches, ninth Augusts, tenth Julys, eleventh Februarys, and twelfth Januarys; whereas the maximum beri-beri admittances were in first Decembers, second Novembers, third Mays, fourth Januarys, fifth Aprils, sixth Marches, seventh Octobers, eighth Februarys, ninth Junes, tenth Julys, eleventh Septembers, and twelfth Augusts. The order of merit of the years with regard to rainfall and beri-beri is shown in the following table:—

—	The wettest year.		Beri-beri admission order.		
1	1891	250 in. (highest)	1891	121	7 (lowest)
2	1892	178 inches	1892	262	4
3	1895	123 "	1895	428	3
4	1893	111 "	1893	242	5
5	1894	110 "	1894	204	6
6	1897	109 "	1897	445	2
7	1896	104 in. (lowest)	1896	700	1 (highest)

In 1892 the district began to show signs of waking up and mines began to be opened. Since this time the cases have steadily mounted until 1896, falling a little again in 1897. Through the courtesy of Messrs. Grey and Thomson of the district office I have had access to the district land books and have found out the amount of land alienated by Government for mining purposes in each year as follows:—

Year.	Land alienated.	Order.*	Beri-beri.	Order.*
1891	None recorded	—	121 cases	7 (lowest)
1892	194 acres	6	262 "	4
1893	921 "	2	242 "	5
1894	968 "	1	204 "	6
1895	212 "	5	428 "	3
1896	840 "	3	700 "	1
1897	678 "	4	445 "	2

* The figures in these columns indicate the relative position of the years 1891-1897 as regards the amount of land alienated and the number of cases of beri-beri.

The fact that the majority of miners are Chinese who very rarely open the ground at once, usually felling the jungle and then waiting for two years more or less before starting mining, coupled with the fact that everyone recognises that the district has become much busier in the last few years, will cause these figures to throw some light on the subject, although the amount of land alienated any given year does not bear any direct proportion to the number of cases that year. Allowing the usual two years for the land to lie unmined we find from the figures of the alienation of land that 1895, 1896, and 1897 ought to have produced the highest number of cases, and actually that is so, for during the years 1893, 1894, and 1895 2201 acres were alienated out of a total of 3813, and during the years 1895, 1896, and 1897 1573 cases of beri-beri occurred out of a total of 2422, considerably over half the amount of total land alienated and well over half the total number of cases in the seven years.

One more fact may be culled from the months in which the greatest amount of rain fell—viz., that they do not correspond with the highest beri-beri admissions in their individual position which may be seen on reference to the following table:—

Year.	Rainfall.		Beri beri.	
	Maximum.	Minimum.	Maximum.	Minimum.
1891	October, 54 in.	March, 6 in.	December, 32 cases.	February and October, 5 cases
1892	June, 23 in.	August, 7 in.	May, 42 cases.	February and March, 13 cases
1893	October, 13 in.	March, 3 in.	December, 35 cases.	July, 7 cases
1894	April and December, 14 in.	February, 1 in.	April, 34 cases	September, 5 cases
1895	October, 26 in.	January, 1 in.	December, 74 cases	February, 15 cases
1896	October, 15 in.	January and May, 2 in	November, 75 cases	June, 36 cases
1897	December, 20 in.	July, 5 in.	January, 78 cases	July and December, 20 cases

It is also worthy of notice that the greatest number of admissions in any month for the several years occurred in 1891 in December, in 1892 in May, in 1893 in December, in 1894 in April, in 1895 in December, in 1896 in November, and in 1897 in January; and the highest rainfall each year occurred in 1891 in October, in 1892 in June, in 1893 in October, in 1894 in April and December, in 1895 in October, in 1896 in October, and in 1897 in December. From this may be seen that although four Octobers out of seven have shown the maximum rainfall, yet October does not occur in the beri-beri list of highest admittances and the month following—that is, November—only once.

These facts, coupled with the universal experience of the miners—namely, that when the mines are opened a certain large proportion of men will get beri-beri and a comparatively small number suffer from severe malarial fevers—seems in my opinion to point to the cause of the disease being in the soil or perhaps to its requiring the presence of malarial conditions or even parasites for its proper development.

[Dr. Gerrard next recapitulates the existing theories as to the etiology of beri-beri, but owing to the pressure on our space we have omitted this part of his paper. We have omitted his chart because the tabular statements make his arguments quite clear.]

It is beyond my province here to deal with such interesting points as the initial symptoms, the physical signs, progress, diagnosis, and treatment, all of which sub divisions of this powerful and obscure disease require separate study, deep and honest, careful and concise, before we can hope to arrive at a true conclusion. I can only express a wish that the fact of its independence of meteorological vagaries may help to put us on our way to the commencement of that study which will begin on that date on which the cause is brought to light.

Since writing the above I have cultivated from the blood of an acute case of beri-beri a micrococcus somewhat similar to one described by Pekelharing and Winkler, but not so irregular in size. I am forwarding slides to the School of Tropical Medicine. No bacilli were to be found on the plates or in tubes. I may also mention that the figures for 1898 endorse this argument against the influence of rainfall on this disease.

Ulu Selangor, Federal Malay States.

BERKELEY HOSPITAL.—The annual meeting of the managerial staff of this hospital was held on Feb. 1st under the presidency of Lord Fitzhardinge. The medical report stated that 75 cases had been admitted during the past year. The financial statement showed an adverse balance of £61 at the end of the year.

DORSET COUNTY HOSPITAL.—The annual meeting of governors, managers, and subscribers to the Dorset County Hospital, Dorchester, was held on Feb. 2nd under the presidency of Captain Acland. The report stated that during the past year 268 in patients had been admitted and 868 out-patients attended. The financial statement showed that the income from all sources amounted
and the expenditure to £2347.

A NOTE ON "CASES OF PHTHISIS WITH PECULIAR CARDIAC PHYSICAL SIGNS."

BY WILLIAM EWART, M.D. CANTAB., F.R.C.P. LOND.,
SENIOR PHYSICIAN TO ST. GEORGE'S HOSPITAL AND TO THE BELGRAVE HOSPITAL FOR CHILDREN; JOINT LECTURER ON MEDICINE IN THE MEDICAL SCHOOL OF ST. GEORGE'S HOSPITAL.

UNDER the heading of "Cases of Phthisis with Peculiar Cardiac Physical Signs" two cases of great interest were recently reported in THE LANCET by Dr. Hale White[1] and by Mr. W. Southwick Willmore[2] which had until now escaped my notice. The physical signs noted were those of a great displacement of the heart to the right, yet at both necropsies the heart was found to be normal and *not* displaced. Both observers seem to accept the position that the displacement which they had diagnosed must have been apparent only, the cardiac sounds being conveyed by consolidated tissue, though they are at a loss to account for the impulse which in one case was felt and in the other was seen as well as felt in the right chest, and the conclusion arrived at is that "we must not assume that when the heart's impulse is seen and felt far on to the right side of the chest the organ is necessarily dragged or pushed over or altered in size." As any interpretation of the kind suggested might tend to shake that trust in our clinical methods of diagnosis which it is desirable that we should uphold, the time may not be thought to have passed for this reference to the cases and for an attempt to rid them of their mysterious character and to reconcile statements which were probably only in appearance contradictory. The clinical observations described are to my mind conclusive evidence of the existence during life of a considerable displacement of the heart to the right in both cases; but it is conceivable that this displacement could not be readily demonstrated by the ordinary post-mortem examination.

Cases of this sort occur from time to time among the large number of cases in which fibroid excavating disease of the right lung tends to displace the heart more or less. When at the same time the left lung and the heart are fixed by adhesions the right side of the thorax falls in. If the right chest should not fall in this must be due either to a considerable emphysematous distension of the right middle and lower lobes or, failing this, to the encroachment of the heart and of the left lung into the right chest. It is therefore clear that the cardiac displacements which are considerable and horizontal belong more especially to the group of cases in which, whilst the thorax remains symmetrical, the right lower lobes are not only free from distension but are often themselves the seat of destructive lesions such as those reported in one of the two cases. Precisely similar cases have come under my own notice.

In January, 1891, closely adjoining beds were occupied by two patients under my care with destructive lesions in the right lung in whom the heart was much displaced, the cardiac dulness and impulse occupying in the right chest the position which normally belongs to them in the left. One of these patients, suffering from extensive bronchiectasis of the right lung, in whom Mr. Bennett had resected the right ninth rib at my request but had failed to obtain any discharge of pus, was exhibited at the Medical Society of London[3] under the heading of "Dexiocardia"—a term properly restricted to the exceedingly rare cases in which the heart alone is congenitally transposed to the right, the other viscera not being transposed. Both patients died and were examined after death. In the *first case* I happened to be prevented from witnessing the beginning of the necropsy and I was met on my way to the *post-mortem* room by a report that whilst the right lung was extensively excavated the relations of the heart were absolutely normal—a report which, not entertaining any doubt as to the reality of the displacement during life, I received with surprise and not without some reservation as to its retrospective significance. In our Post-mortem and Case Book (No. 64, 1891) may be seen facing each other two equally trustworthy and accurate records, one describing the heart as it lay in its normal position, the other setting forth the clinical evidence of great displacement of the heart into the right chest. I never ceased to believe that the heart had been contained within the right chest before the chest was laid open and that the displacement might have been visible had the pericardium been opened from the abdomen before opening the chest. The second necropsy,[4] that of the case of bronchiectasis, showed the cardiac displacement without any difficulty, thanks to the powerful adhesions which retained the heart in the position which it had occupied during life; and this confirmed me in the view which I had taken of the first. Both cases were, practically speaking, identical in their clinical signs, and the pulmonary lesions were closely analogous—viz., considerable destruction of pulmonary tissue and fibrosis involving the posterior part of the upper lobe and extending into the inferior lobe almost to the base. The leading difference was that in one case the right pleuro-pericardial adhesions were continuous with the retracted fibrous tissue of the lung, in the other they were not. If this source of fallacy be borne in mind by the pathologist he may so conduct the operation as to demonstrate the actual condition. But even should the heart have been allowed to slide back unobserved into the left chest, owing to the admission of air into the pleuræ, it may not be impossible to reconstruct the true pathological anatomy of the thoracic contents. Thus in the cases reported by Dr. Hale White and by Mr. Southwick Willmore, both of which, as is essential for the production of the fallacy in question, were *free from collapse of the right thoracic* wall, a considerable proportion of the total capacity of the right half of the thorax corresponding to the extensive destruction of lung tissue had to be accounted for. This surplus of space we must assume to have been filled by the heart since it could not have been occupied by the right lung owing to the pneumonic condition of the lower lobes in one of the cases and to their diseased *and airless condition in the other.* I would therefore suggest for both these instances the same explanation which I had adopted at the necropsy on my own case—viz., that when the sternum and costal cartilages were removed the heart must have dropped backwards by its own weight and to the left owing to the partial subsidence of the over-stretched left lung. The heart would then have been seen in apparently natural lateral contact with the right lung; yet by reapplying the sternum it might have been possible to show that the damaged lower right lobes, practically incapable of expanding, could not have completely tenanted the vacated right parasternal region.

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[1] THE L 19th,
[2] THE LAN

Taking, then, the view that these were instances of *mobile hearts held in the right chest by atmospheric pressure* owing to extensive destruction of the right lung without compensating collapse of the chest wall, it may perhaps be suggested to clinicians that skiagraphy might place their diagnosis of displacements of the heart beyond any chance of scepticism, and to pathologists that they might in investigating cases of this kind modify their method of section in some suitable manner likely to afford a view of the heart before there had been any possibility of its relations having been disturbed.

Curzon-street, Mayfair, W.

A NEW PREPARATION FOR RAPIDLY FIXING AND STAINING BLOOD.

By LOUIS JENNER, M.B., B.CH. OXON., M.R.C.P. LOND.

(From the Clinical Laboratory, St. Thomas's Hospital.)

MOST persons will agree that the only justifications for introducing a new histological stain are (1) that it should demonstrate something new, or (2) that it should demonstrate something more plainly and readily than before, or (3) that it should be a simpler method than that in general use. It is claimed for the following new compound blood stain that it at any rate fulfils the last two conditions. The stain is a single solution, easy to make up, which keeps well, which will fix and stain ordinary blood films in two minutes, and which demonstrates with perfect clearness and in well-marked contrasts red blood discs, blood platelets, the nuclei of white blood cells, the fine granules of the polymorphonuclear leucocyte, coarse oxyphil granules, basophil granules, and when present, erythroblasts; bacteria, the malaria parasite, and filariæ. It has been primarily designed for bedside work where rapid and certain methods are the main consideration.

In absolute alcohol we have one of the most reliable fixatives known, and eosin and methylene blue possess the requisite properties for demonstrating all the ordinary characteristics of normal and of pathological blood. Eosin itself, however, cannot under ordinary circumstances be made to stain certain cell granules and for this purpose various combination stains have been used; of these the most generally used are the Ehrlich-Biondi and Ehrlich's later triacid. These, however, are undoubtedly troublesome to use and require special fixing methods. When to a solution of eosin some solution of methylene blue is added a precipitate falls—brilliant grass-green crystals if alcoholic solutions and alcohol-soluble eosin (Grübler) are used, but amorphous and of a dark metallic-green colour if watery solutions and water-soluble eosin are used.

The eosin methylene blue mixtures at present in use, as far as I know them, are designed with a view to avoiding the precipitates which form when solutions of these dyes are mixed or after they have been kept a short while. These precipitates are, I believe, compounds of eosin (acid) and methylene blue (base).

The brilliant grass-green crystals obtained from alcoholic solutions are very sparingly soluble in alcohol in the cold, but more soluble in hot alcohol, from which they can be re-crystallised in the same form. That they represent a definite compound body is, I think, rendered probable by the fact that the same crystals are obtained, though in varying amounts, however the proportion of the original ingredients is varied, and that the crystals so obtained have identical melting points—viz., 227° C. taken on the surface of mercury. The suggestion to test them in such ways I owe to Mr. E. White of St. Thomas's Hospital. These crystals from their sparing solubility in alcohol are not useful as a blood stain without previous fixation of the film. They are, as a matter of fact, soluble in chloroform and in aniline oil, the solutions in each case being of a dark violet colour.

The amorphous precipitate obtained from watery solutions of the two dyes is in its turn very sparingly soluble in water, but in alcohol it gives a blue solution with strong green fluorescence; it is more soluble in methyl alcohol. It is such a solution which I find to work admirably as a blood film fixative and stain. It is made up in the following way. Equal parts of a 1·2 per cent. to 1·25 per cent. solution of Grübler's water-soluble eosin, yellow shade, in distilled water and of a 1 per cent. solution of Grübler's medicinal methylene blue, also in distilled water, are mixed together in an open basin (not in a flask) and thoroughly stirred with a glass rod. The mixture may with advantage be left for 24 hours. It is next filtered and the residue is dried either in the air or more quickly in an incubator or water oven. I have dried it at 55° C. without harm. When quite dry the residue is scraped off the filter-paper and is powdered. It is then shaken up with distilled water and washed on a filter, when the washings should be of a thin dirty-purplish colour. Finally, it is again dried and powdered and may be stored in suitable bottles. For use, thoroughly shake up 0·5 gramme of the powder in 100 cubic centimetres of pure methyl alcohol (E. Merck "for analytical purposes")[1] and then filter. The solution keeps well.

Cover-glass preparations are made in the ordinary way and on to them as soon as the films (which should be extremely thin) are dry a few drops of the staining and fixing solution are poured, no previous fixation being required; it should, however, be noted that it is essential to the correct working of the stain that the cover-glasses used should be absolutely clean and should have no trace of acid or alkali on them. After they have been cleaned and well washed in distilled water they should be kept in absolute alcohol only. The specimen is covered with a watch-glass to prevent evaporation and consequent precipitation. In from one to three minutes the stain is rapidly poured off and the specimen is at once rinsed in *distilled* water till the film has a pink colour which usually occurs in from five to 10 seconds. It is then dried either very high up over a flame or (better) by agitation in the air and is mounted in xylol balsam.[2]

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[4] Post-mortem and Case Book, No. 64, 1892.

[1] Certain other brands work quite well, but to most of the less pure preparations it is necessary to add absolute ethylic alcohol in greater or less amount to reduce their acidity and to obtain proper *fixation.*

The red discs are of a terra-cotta colour; the nuclei of the white corpuscles are blue; the platelets are mauve; the granules of the polymorpho-nuclear white cells and of myelocytes are red; the granules of the basophils (mast cells) when present are dark violet; and bacteria, filariæ, or malaria parasites are blue. If the specimen has been washed in tap water and not in distilled water the red colours are more pronounced and the blue of the white cell nuclei is almost washed out, while the dark blue of the bodies of the smaller hyaline white cells (lymphocytes) stand out in strong contrast to the now pale nucleus.

It seems to me that the results obtained by this method rather point to the granules of the polymorpho-nuclear leucocytes being basic—i.e., oxyphil—a fact which seems still disputed by some.

The differential staining results from the decomposition of the compound substance by the various elements of the blood, those parts which are acid combining with the basic colouring matter and those which are basic with the acid. That the stain is readily so split up is seen by adding weak acids or weak alkalies to such a watery solution of it as can be made—acids turning the solution blue and alkalies changing it to a pink, the stain acting, in fact, as a fairly delicate indicator. The same result is brought about by heating such weak watery solutions, which turn blue on warming, the original colour returning on cooling.

The stain may be equally well-made by dissolving the eosin and the medicinal methylene blue directly in absolute methylic alcohol and mixing them in the proportions given above—viz., 125 cubic centimetres of a 0·5 per cent. solution of the eosin and 100 cubic centimetres of a 0·5 per cent. solution of the medicinal methylene blue. Although this gives quite as good results the simpler method for ordinary practice is obviously to make a solution of the compound body which may be purchased in the solid state from Mr. R. Kanthack, 18, Berners-street, W., who also supplies the solution ready for use.

St. Thomas's Hospital.

NOTES ON A CASE OF RAPIDLY FATAL GLYCOSURIA IN A SUBJECT OF FRIEDREICH'S DISEASE.

By W. HARRIS BEST, L.R.C.P. LOND., L.S.A.

THE patient, a girl, aged 14 years, commenced at the age of seven years to suffer from difficulty in walking and loss of power in the legs and from that time the train of symptoms characteristic of Friedreich's ataxy slowly developed, following exactly the same course as in the case of a sister two years older. There was complete ataxic gait, with extreme talipes and loss of coördination in movements of the hands. Lateral curvature of the spine and certain involuntary movements of the head as well as complete absence of knee-jerks were other signs present. With reference to the family history, a great uncle on the father's side was said to have suffered from difficulty in walking at the age of seven years and this was followed in the course of time by paralysis of the lower limbs, but he lived to the age of 50 years. The father and mother were both healthy. The course of the patient's final illness was as follows. On August 23rd, 1898, whilst seeing another member of the household I was consulted for the first time with reference to the patient's indisposition. The mother had noticed her daughter getting thinner for the past fortnight—that is, since her return from a seaside holiday. By a curious coincidence the last case of diabetes which occurred in my practice came on immediately after the patient's return from his annual seaside holiday. On questioning her I found that there were marked thirst and polyuria. She got out of bed at least three times at night and each time passed a fair quantity of urine. The bowels were moved regularly every day, the tongue was covered with a light brown fur and was rather dry with red margins. The skin was dry and harsh. There was a fair colour in the cheeks which was diffused over the face though at times she was pale. Examination of the chest failed to find any lung disease. There was a slight mitral systolic bruit heard over the heart's apex but no displacement of the apex beat or other abnormality of the heart. She was emaciated. The pulse was 60 and fairly full and regular and the temperature was subnormal. The quantity of urine passed in 24 hours was about four quarts; it was of light colour but rather turbid and acid in reaction; the specific gravity was 1045. On testing with freshly prepared Fehling's solution the brick-red discolouration showed immediately; the dark brown, on boiling with liquor potassæ as in Moore's test, showed equally well. The same applied to the picric acid test, the discolouration in the latter being very opaque. There was no albumin in the urine. On the following day (the 24th) she was placed on diabetic diet, though allowed a small quantity of toast at first. A quarter of a grain opium pill was given three times a day and Vichy water two or three times daily. She took a good proportion of meat with plenty of fat among other things. On the 25th—that is, after one day's treatment—the more troublesome and obvious symptoms, such as thirst and languor, commenced to abate. On the 26th Dr. F. J. Smith was called in consultation. He confirmed the diagnosis and advised a continuation of the same treatment with the addition of 10-grain doses of sodium salicylate three times a day. He also agreed with the diagnosis of Friedreich's disease in both girls. Dr. Smith was much interested in the case and I am indebted to him for some valuable hints as to treatment, &c. On the 27th the improvement was maintained; less urine was passed and the patient had been only disturbed once during the night. Examination of the urine, however, showed little change On the morning of the 28th she appeared still to be improving and was quite cheerful. In the afternoon abdominal pain with some diarrhœa and sickness came on, much prostration resulting. These symptoms were followed in a few hours by sighing respiration, the breathing being deep and loud. There were extreme coldness of the extremities, small pulse, and all the signs of marked collapse accompanied with short paroxysms of dyspnœa, but the patient could very easily be aroused from the stupor. The acute bowel symptoms quickly subsided though slight vomiting still occasionally occurred. The odour of the breath was decidedly peculiar and suggestive of that described in text-books as accompanying diabetic coma. All the ordinary means of stimulation appeared to be useless though many were tried, such as mustard poultices to the chest and brandy, ether, and strychnine hypodermically administered. Though the pulse seemed to momentarily improve after giving by the mouth a strong solution of ammonia in small doses well diluted with cold water, this had to be discontinued through sickness and the bowel was too irritable to retain any saline solution which was injected. The patient was not delirious at any time; indeed, she retained consciousness to near the very end. She remained in this condition for three days, a certain amount of dyspnœa occurring up to the last. Unfortunately a post-mortem examination was not obtained.

In view of the paucity of our knowledge concerning the etiology and pathology of diabetes and of its association in this case with Friedreich's ataxy, the morbid pathology of which is comparatively well known, this case appeared to be worth recording though the absence of a post-mortem examination very considerably detracts from its possible value as a record. It is hoped that it may be of some little interest (brief and very incomplete as it is, partly through the unexpected and abrupt ending of the case), more especially to those engaged in investigating the nervous side of the origin of diabetes.

Remarks by Dr. F. J. SMITH.—This case seems to me to be well worthy of record because both diseases were so very distinctly marked. Both sisters I have since been given to understand have seen several eminent neurologists and, I believe, have been shown at societies as typical cases of Friedreich's ataxy, while about the glycosuria with acute diabetic coma there could be no doubt. To speculate on the advance of cord-sclerosis as affecting the nerves controlling visceral function would be rather futile when based on one case only, which may be but a coincidence, but should other similar cases be reported of a like nature this one would add considerable weight to the argument.

Ilford.

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[2] If distilled water is not available tap water may be used provided the specimen be only momentarily immersed in it and then dried between filter-paper or rapidly over a flame. Pictorially such a specimen is not so perfect.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

CHARING CROSS HOSPITAL.

TWO CASES OF PERFORATING GASTRIC ULCER; OPERATION; ONE RECOVERY AND ONE DEATH.

(Under the care of Mr. JOHN H. MORGAN.)

ALTHOUGH it is probable that the statistics of the operation for perforation of an ulcer of the stomach which are based on published cases do not exactly represent the true mortality, yet the results obtained from a consideration of a complete series of cases under individual surgeons go far to show that the mortality is much less than might have been expected. For instance, Mr. A. E. Barker[1] had three recoveries in seven cases and it may fairly be said that nearly 50 per cent. of the cases recover after operation. The two chief data on which the prognosis can most safely be based are, firstly, the length of time which has elapsed between the perforation and the operation; and secondly, the presence or absence of food from the stomach. It is extremely rare for recovery to follow if more than 24 hours have elapsed before the abdomen is opened. A. J. Cabot[2] has recently recorded a case in which the operation was performed 24 hours after the perforation occurred, but as the stomach was practically empty hardly any extravasation took place and recovery ensued, the opening having been sutured. An important point which is now being much discussed is the best method of cleansing the peritoneum in these and similar cases and the consensus of opinion is on the whole in favour of wiping rather than flushing. By neither method is it possible to remove all the extravasated material and micro-organisms are sure to be left; it is probable that the peritoneum can dispose successfully of a certain number of germs. Mr. Morgan's two very interesting cases form a welcome addition to those which we have recently published. In the first case eight hours intervened between the perforation and the operation, in the second a whole day, and this of itself would go very far to account for the fatal result in the latter.

CASE 1.—A woman, aged 27 years, had for some time suffered from dyspepsia and symptoms of gastric ulcer, for which she had been treated by Dr. Sapp who, however, had not been consulted for six weeks, when on Oct. 8th, 1897, the patient went for a walk in the suburbs and on returning she became very ill and Dr. Sapp was sent for and found her in a state of very severe collapse. She was at once conveyed to the hospital where she was seen by Dr. Willcocks who summoned Mr. Morgan, and it was decided to operate immediately. It was ascertained that some months previously she had vomited blood but had been able to resume and to continue her work. When seen she was in a condition of great prostration but fully conscious. The respirations were rapid and entirely thoracic. The abdomen was universally distended, the liver was not perceptible, and there were great pain and tenderness, especially in the left hypochondrium. The pulse was rapid, small, and compressible. The operation was performed at 1 A.M., eight hours after the presumed occurrence of perforation. An incision about two and a half inches in length was made in the mid-line between the ensiform cartilage and the umbilicus. Upon opening the peritoneum some gas escaped and a quantity of turbid fluid mixed with semi-solid food and curdled milk was sponged out. The stomach was then brought up to the edge of the wound and searched. Upon the anterior surface between the greater and lesser curvatures and nearer to the cardiac than to the pyloric end was found a small, ragged slit or perforation about one-third of an inch in length through which the contents of the stomach were exuding. The walls around this were considerably thickened over an area about one and a half inches in diameter. Eight Lembert's sutures of fine silk were passed which securely closed the slit in the stomach wall and four broader sutures were passed above these to draw the wall of the stomach closer together and to avoid tension upon its weakened part. The cavity of the peritoneum was then carefully wiped with hot dry sponges in every direction, particular attention being given to the space between the liver and the diaphragm, from which many particles of food were removed. The abdomen was then flushed with weak boric solution followed by hot water. When the peritoneal cavity had been again sponged dry the abdominal wound was united by interrupted sutures of fishing gut and a small indiarubber drainage tube was inserted at the lower end. After dusting with iodoform the parts were dressed with cyanide gauze and blue wool and an abdominal binder was applied. The patient passed a quiet night but vomited twice during the morning following. Nourishment was given by means of enemata of peptonised milk and eggs. The following day the pulse was 108, full and strong, and the temperature was 100° F. Pain in the region of the incision made breathing difficult, but there was no pain, distension, or tenderness in the other parts of the abdomen. The surface of the tongue was excessively foul but moist; the patient slept well. On Oct. 10th there was still pain in the region of the wound and she suffered from slight cough. The dressings were renewed and the tube was removed, a piece of iodoform gauze being inserted in its stead. Only a small amount of pure blood-stained serum exuded. During the next 10 days she made steady progress; the temperature sank to normal, the cough ceased, and the tongue slowly became cleaner. Thirst was excessive and on the eighth day small quantities of milk and eggs were given by the mouth. On the thirteenth day the temperature rose to 101° and pain was complained of. On dressing the wound a small collection of foul-smelling pus was evacuated in which were seen some shreds of coagulated milk which had been lodged between the skin and the muscles in the abdominal wound. The collection was entirely superficial and the parts were syringed out with boric lotion and a drainage of gauze was re-inserted. The temperature again became normal in three days and the abscess cavity closed. By slow degrees the patient resumed a normal diet and at the end of six weeks she was walking about. It was some time before she left the hospital, as she still suffered occasionally from dyspeptic symptoms and pain, and she remained under the care of Dr. Green, as it was feared that there might be some recrudescence of the old ulceration or that a fresh ulcer might arise. All symptoms, however, at length subsided, and she ultimately left the hospital in fairly good health.

CASE 2.—A woman, aged 27 years, was admitted to hospital on Feb. 7th, 1898. She had suffered from dyspepsia for more than a year and had been treated for gastric ulcer. In the previous August she had vomited some blood but no recurrence had taken place until the day before admission, when after carrying a tea-tray upstairs she suddenly became faint and felt severe pain in the region of the stomach and between the shoulders. She was put to bed and she soon brought up a small quantity of blood. A medical man who saw her ordered immediate removal to the hospital, where she arrived on the following afternoon. She was apparently a stout, ruddy, well-developed woman. She lay on her back with her legs drawn up, the abdomen being markedly distended and the muscles rigid, especially upon the left side. Pain was referred more particularly to the left iliac region; liver dulness was obliterated. The pulse was small, running, 156, and only faintly perceptible at the wrist. The respirations were 40; the alæ nasi were working. Her expression was anxious but consciousness was unimpaired. On the arrival of Dr. Bruce and Mr. Morgan it was decided that though the patient was desperately ill the only chance for her life lay in immediate operation. Ether was administered and an incision was made about one inch to the left of the middle line. On puncturing the peritoneum a quantity of very foul gas escaped and on enlarging the opening a large amount of turbid yellowish fluid containing clots of milk and some more solid contents of the stomach gushed out. The stomach was drawn up into the wound and an ulcerated opening was soon found. This was large enough to admit a finger; the edges were ragged and there was a considerable extent of surrounding induration. It was situated on the anterior surface at a short distance below the cardiac end So bad was the condition of the patient that this had to be dealt with as rapidly as possible but it was ultimately closed with six silk sutures inserted by means of curved needles, and a few Lembert's sutures were used to draw the neighbouring parts together and so to cover in the edges of the ulceration The peritoneal cavity was rapidly sponged and then flushed with hot boric lotion and hot water. The wound was closed as quickly as possible and every effort was made by means of injections of strychnia, enemata of brandy, and inhalations of oxygen to revive the patient, but she died a few hours after the completion of the operation The post-mortem examination showed acute universal peritonitis

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[1] THE LANCET, Dec. 5th, 1896, p. 1583.

[2] Boston Medical and Surgical Journal, August 11th, 1898, p. 134.

Remarks by Mr MORGAN —There were published in the "Mirror of Hospital Practice" during 1898 five cases of laparotomy for perforating gastric ulcer, four of which were successful It is to be feared that this does not represent the proportion of recoveries to operations performed, but it seems very desirable that successes and failures alike should be recorded in order that all details which may help to bring about successful results may be carefully considered As pointed out in the article in THE LANCET of Dec 31st, 1898, the prospects of success depend to a large extent upon the period which has elapsed between the actual perforation and the time when laparotomy is performed The symptoms of perforation are almost unmistakeable and little time need be wasted on the question of diagnosis On the other hand, there are conditions which may render even the most speedy operation almost hopelessly futile, such as the large size of the perforation itself, the previous state of the patient, and the nature and amount of the contents of the stomach which are poured out into the peritoneal cavity Such conditions are well contrasted and exemplified in the two cases narrated

LONDON TEMPERANCE HOSPITAL.

A CASE OF SEPTICÆMIA TREATED WITH ANTISTREPTOCOCCIC SERUM, RECOVERY

(Under the care of Dr LEONARD WILDE)

THE failure which has in so many cases attended the *injection of antistreptococcic serum in septicæmia* is chiefly to be attributed to its indiscriminate employment in all forms of septic infection It is essential that the presence of streptococci should be demonstrated, otherwise our knowledge of the value of this powerful therapeutic appliance cannot advance There is reason also to believe, as Dr Wilde points out in his remarks that all streptococci are not affected by the same variety of serum The case recorded below is very striking and the bacteriological evidence is very satisfactory In the present condition *of variation in* the quality of antistreptococcic serum it is always advisable to mention the source of the serum employed During 1898 we published several interesting cases of septic infection in which the antistreptococcic serum appeared to be of value [1] A case of great interest appeared in the *Therapeutische Monatshefte* of September, 1898, p 498, in which severe septic symptoms developed in a medical man who accidentally inoculated himself with pus from a boil Recovery was rapid and complete after injections of antistreptococcic serum

A youth, aged 18 years, robust and muscular, with a healthy personal and family history, was admitted under the care of Dr Leonard Wilde on August 19th, 1898 Five days before admission he had begun to suffer from vertical and occipital headache which had commenced without apparent cause and rapidly increased in intensity On admission he was conscious and able to answer questions but was somewhat apathetic and merely complained of severe headache A complete examination showed no organic *disease and no evidence of injury The* temperature was 101.6° F and the stools and urine were normal He remained in practically the same condition until August 26th when the pharynx and tonsils became swollen and inflamed and on Sept 2nd they were covered with a pultaceous and offensive exudation. A bacteriological examination of the secretions of the throat showed a complete absence of diphtheria bacilli but an almost pure cultivation of the micro-organisms belonging to the streptococci group An examination of the blood carried out by the Clinical Research Association gave negative results with regard to Widal's reaction for enteric fever, but streptococci were present in large numbers The patient was now in a very critical condition, his temperature was 104°, he was semi conscious, tremulous, passing everything under him, and seized with occasional convulsions, and it was evident that unless the noxious organisms circulating in the blood were destroyed without delay fatal results would occur Accordingly on Sept 3rd 10 cubic centimetres of antistreptococcic serum were subcutaneously injected every four hours It was observed that for a short time after each injection the patient rallied and the pulse improved, but this was not maintained until the following injection The dose was therefore doubled in quantity though reduced in frequency and eventually only 20 cubic centimetres were injected every 12 hours On Sept 5th considerable improvement was noted, the temperature had fallen to 101°, and the patient expressed himself as feeling better On the 10th pneumonic consolidation of the upper lobe of the right lung supervened, accompanied by violent delirium and high pyrexia The injections were, however, regularly continued until the 12th when, according to the report of the Clinical Research Association, the blood was pronounced to be sterile There was then reason to hope that no further development of the disease would occur and that only its effects remained to be dealt with The injections, which had now amounted to 345 cubic centimetres of the serum, were discontinued The patient was still in a precarious condition, superficial abscesses having appeared in many portions of the body and the condition of the right lung was throwing an additional strain on the heart The throat, however, began to clear, and on the 17th the temperature commenced to fall, reaching normal about the 20th After this he gradually improved, *though* convalescence was *somewhat* protracted owing to an attack of hæmaturia His recovery was eventually complete and he was discharged on Nov 16th He was seen again on Jan 15th, 1899, and with the exception of considerable pallor he appeared to be in good health

Remarks by Dr WILDE —This case is interesting as belonging to a class of disease about which there has been considerable controversy as to the efficacy of serum therapy when employed as a germicide It has not, I think, been claimed that antistreptococcic serum acts as an antitoxin as in the case of the antidiphtheritic serum but merely that it possesses bactericidal properties which may be applied in certain cases with a rational expectation of success Whether the patient recovered because of the administration of the serum or simply during such administration I have no desire to state, but the facts have been recorded as they occurred and those interested in the subject can form their own opinion The difficulty of successfully applying the antistreptococcic serum rests on the fact established by Van de Velde that there are several races of streptococci, none of which affords protection against the other, and until a serum has been obtained which includes the products of each race the success of the treatment will depend upon whether the organisms to be attacked are of the same race as those from which the serum injected has been derived

GLASGOW CENTRAL DISPENSARY

A CASE OF ACUTE TUBERCULOUS CHOROIDITIS FOLLOWING OPERATIVE TREATMENT OF TUBERCULOUS LESIONS IN A LIMB

(Under the care of Mr G H EDINGTON)

IT cannot be questioned that a surgical operation on a tuberculous lesion is a possible cause of a general diffusion of the disease, and there is little doubt that such a dissemination does occur, though very few cases appear to have been recorded; yet most surgeons must be able to call to mind cases which could be most easily explained on this supposition *Scraping* a tuberculous lesion with a sharp spoon seems to be more likely to give rise to general infection than any *other form* of operation In Mr Edington's very interesting case the interval (four days) between the operation and the *first manifestation* of anything wrong with the eye is rather short and we are inclined to agree that the choroidal lesion was not new

A boy, aged three years, was taken to the Glasgow Central Dispensary on April 14th, 1897, on account of an ulcerated condition of the left hand with swelling at the elbow and knee of the same side. The patient had been a fairly healthy child till he suffered from measles about two months before being seen at the dispensary. Either during convalescence or somewhat later a swelling appeared in the palm of the left hand. This was opened and had continued to discharge since. The time of the commencement of the condition of the knee and elbow was not known definitely. Since the attack of measles he had "failed" greatly according to his parents' statement. The mother was an apparently healthy woman, while the father was tall, well-built, and very robust. Two years previously he suffered when in the China seas from sudden blindness which lasted for a few weeks and then left him with apparently unimpaired vision. Besides the patient there had been one child who died when about a year old from what appeared to have been tuberculous meningitis. On examination the patient showed evidence of rachitic condition; this was chiefly marked in the head which was of the broad type. On the palmar surface of the left index finger and near the metacarpo-phalangeal joint there was an ulcer covered with a scab and surrounded by thickened tissues. The cubital gland was enlarged and softened and there was thickening of the lower half of the shaft of the humerus. The elbow-joint was free. The left knee presented synovial thickening giving the joint a globular appearance. On April 17th chloroform was administered and the palmar ulcer was scraped with Volkmann's spoon and found to be part of a tuberculous process involving the sheath of the flexor tendon of the index finger. The cubital gland was incised and watery pus was evacuated, followed by cheesy material, and a tuberculous membrane was removed by the spoon. Four days later the parts were dressed and looked well. There was, however, a dimness of the left eye, especially of the cornea. This was not present prior to the operation and it was thought that it might be a corneitis following an incautious dropping of chloroform. On the other hand, taken in conjunction with the enlargement of the lower end of the humerus, the probability of the corneal condition depending on syphilis was considered.[1] The child was therefore given one grain of mercury with chalk twice a day. By May 1st (a fortnight after the operation) the condition of the eye which was unimproved had become the leading feature of the case. There were then photophobia, enlargement of the eyeball (without tenderness), a greyish condition of the cornea, decided conjunctival injection, and some catarrh. Since the last note the patient had been very heavy and had lost his appetite. He was thinner, but the local conditions (knee, humerus, &c.) were no worse. On account of the progressive nature of the affection of the eye the child was sent to the Charlotte-street department of the Glasgow Eye Infirmary under the care of Dr. Maitland Ramsay. Dr. Ramsay found the condition to be one of purulent choroiditis and expressed the opinion that it was probably of tuberculous origin. He enucleated the eyeball on May 20th. The child made an uneventful recovery and was dismissed from the eye infirmary well as regards the orbit and with the wounds of the hand and elbow healed. The eyeball was examined by Dr. Leslie Buchanan and the choroid was demonstrated by him to be the seat of a tuberculous process.

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[1] THE LANCET, Feb. 19th, 1898, p. 502, and March 19th, p. 779.

Pathological note by DR. LESLIE BUCHANAN.—The eyeball was found to be considerably enlarged by the formation of an ectasia of hemispherical shape at the upper and inner quadrant near the equator and measuring 14 millimetres across the base. On the globe being bisected by an oblique antero-posterior cut it was found that the cornea was clear and that the iris was free, having a good anterior chamber. The posterior chamber was abolished by total posterior synechia. The lens was of normal size, occupied the normal position, and was clear. There manifestly had been a moderately severe irido-cyclitis as both the iris and the ciliary body were covered by a layer of fibrinous exudation and there was a considerable amount of the same material present in the anterior chamber. The retina was totally separated from the choroid and was pushed tightly forwards against the lens. Although moderately free from evidence of inflammatory action in front, the retina seemed to be involved in a dense mass of exudation behind, passing as it did into a thick column which passed backwards to the entrance of the optic nerve and spread out all round on to the choroid. The ectasia was found to be a dilatation of an infiltrated and thickened sclerotic. There was a mass of tissue joined to the base of the before-mentioned column and to the choroid to the inner and upper side of the entrance of the optic nerve, which mass appeared to be of a different consistence from the rest of the column, presenting signs of degeneration. The choroid was altered in the ectasia but not thickened, whilst over the rest of the globe it was much thickened. There was no evidence of external propagation of the growth.

Microscopic examination.—The microscopic examination of the anterior part of the eyeball calls for no special comment here. It will be sufficient to say that there was a general and simple inflammation of the iris and ciliary body but no evidence of special inflammatory process. The posterior part of the column which passed from the sclera to the lens was found to be composed of densely packed round cells with recognisable remains of retinal structure and in a few places formations typical of tubercle. The same round-cell exudation with tuberculous characteristics was found in the thickened choroid, and the degenerated mass, which measured eight millimetres across, was found to be composed of much the same structure, only that in several parts the cells were so far degenerated that they would not stain, their outlines being utterly destroyed. The giant cells which in almost every instance were found in the centre of the tuberculous structures were of large size and had their nuclei arranged round the periphery. Special staining failed to bring out tubercle bacilli.

Remarks by MR. EDINGTON.—The above case has appeared to me to be of sufficient interest to be recorded on account of the question which it raises of dissemination as a result of partial operation for tuberculous disease. The remarks which I have to make on the case may very properly be preceded by a short mention of the views on choroidal tuberculosis of some of the writers on diseases of the eye. Macnamara and Hartridge[2] mention tuberculosis of the choroid as occurring in two forms: (1) chronic choroiditis, which may be primary or associated with tuberculosis of the brain—as a rule this form is insidious in its progress and unilateral in its distribution; and (2) miliary tubercle, which is much more common and usually part of a general tuberculosis. It affects both eyes commonly and the tubercles are numerous. Sometimes the condition is only seen in the advanced stage of a tuberculosis and at first causes but little pain or discomfort. Berry[3] describes the following forms: (1) miliary which is acute and always secondary to tuberculosis in other organs, is generally bilateral, probably never accompanies pulmonary tuberculosis alone, and appears to have no definite relation to tuberculous meningitis; and (2) *chronic* tuberculous choroiditis which is much rarer, unilateral, and sooner or later associated with similar diseases of the brain ending fatally. Panas[4] also speaks of: (1) miliary or disseminated, almost always accompanying meningeal tuberculosis and appearing in the posterior part of the choroid; and (2) circumscribed, in the ciliary region, usually associated with pulmonary phthisis, but may be primary. At first there is scarcely a perceptible reaction and in a child with meningitis it is often overlooked. If it reaches the ciliary region tuberculosis of the choroid may resemble panophthalmitis, and in children this acute variety is more common. Noyes[5] declares that choroidal tubercle occurs most commonly in tuberculous meningitis and general miliary tuberculosis, but he mentions a case recorded by Fraenkel in which the choroidal condition preceded all the symptoms of general tuberculous deposit by six months. Berry[6] quotes Horner's view that the choroid acts as a substitute for pia mater and that choroidal tubercle occurs least commonly in children in whom meningitis is likely. It will be seen from the above that although tuberculosis of the choroid may occur primarily and alone, yet it is most often the accompaniment of tuberculous lesions elsewhere. It may exist imperceptibly for a time and then takes on the character of an acute irido-cyclitis. Opinions differ as to its accompanying or replacing tuberculous meningitis. The chronic form tends to be unilateral and the acute form to affect both eyes. In connexion with the question of syphilis which entered into the diagnosis von Arlt[7] may be mentioned who, speaking of scrofulous iritis, states that he has seen undoubted cases of scrofula which could be attributed to no other cause than hereditary syphilis. While Panas mentions the acute termination to choroidal tubercle, especially in children, yet this event, taking place so very shortly (four days) after an incomplete operation on the limb, must raise the question either of a dissemination or a stirring-up of a quiescent lesion. Watson Cheyne[8] instances scraping as likely to cause dissemination of tuberculosis, but it is more likely that the choroidal lesion was not a fresh one but a chronic condition stirred up. The unilateral distribution of the lesions was a curious feature in this case, but Dr. Gibb of Paisley, under whose care the patient now is in the infirmary there, informs me that he recently excised the boy's left elbow at the same time observing that the right showed signs of tuberculous disease.

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[1] Henoch: Lectures on Children's Diseases, New Sydenham Society, 1889, vol. i., p. 88.

[2] Diseases of the Eye, p. 225, London, 1891.

[3] Diseases of the Eye, p. 180, Edinburgh, 1889.

[4] Maladies des Yeux, vol. i., p. 425, Paris, 1894.

[5] A Treatise on the Diseases of the Eye, p. 263, London, 1882.

[6] Loc. cit.

[7] Clinical Studies of Diseases of the Eye, p. 266, 1885.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Congenital Hypertrophy of the Pylorus.—The "Buffy Coat."—Alveolar Sarcoma of the Rectum.—Dilatation of the Œsophagus.—Colloid Carcinoma of the Stomach.—Papillomatous Tumour of the Umbilicus.—Exhibition of Specimens.

A MEETING of this society was held on Feb. 7th, Dr. RADCLIFFE CROCKER, Vice-President, being in the chair.

The VICE-PRESIDENT referred with much regret to the death of Professor Coats of Glasgow and the society directed that a letter of sympathy should be sent to Mrs. Coats.

Dr. STILL reported three cases of Congenital Hypertrophy of the Pylorus. The first case was that of a boy, aged 12½ weeks at death, in whom vomiting began at the end of the sixth week (some previous regurgitation of food had been thought natural by the mother). The vomiting persisted and increased until death; the thickened pylorus was distinctly felt shortly before death. The necropsy showed great hypertrophy of the stomach and pylorus, the latter being normally patent. The second case was that of a boy, aged 15 weeks at death. Vomiting began at six weeks of age and increased until death, with constipation and subnormal temperature. Marked peristalsis of the stomach appeared and the thickened pylorus was distinctly felt the day before death. At the necropsy the stomach was found to be dilated and hypertrophied; the pylorus especially was greatly thickened; its lumen was normally patent. The third case was that of a boy, aged 15 weeks at death, in whom regurgitation of food began at seven days. The bowels were costive and vomiting increased. Marked peristalsis of the stomach appeared and the thickened pylorus could be felt distinctly about a fortnight before death. The necropsy showed great hypertrophy of the stomach and pylorus and some also of the œsophagus. The lumen of the pylorus was normally patent. In all these cases the thickening was almost entirely muscular and chiefly in the circular layer. In Case 3 the submucosa also was abnormally thick. Dr. Still in discussing the pathology of this condition thought that a fuller study of the normal pylorus at this age was much needed. He had made some observations from which it was evident that there was considerable variation in the thickness of the normal pylorus in infancy and that this variation was chiefly in the circular layer of the muscular coat. Further, it would appear that the lumen of the normal pylorus as measured post mortem was often not more than from 3 5 to 4 mm. Much caution therefore was necessary in judging a slight degree of hypertrophy and it was evident that the lumen in many, at least, of the cases of congenital hypertrophy of the pylorus was within the normal limits when muscular contraction was absent. Four views had been propounded of the pathology of this condition: (1) that it was entirely extra-uterine and due to spasm from some irritant; (2) that it was due to a developmental hyperplasia; (3) that a primary congenital stenosis was followed by compensatory hypertrophy; and (4) that the hypertrophy was due to over-action from a functional disorder of the nervous mechanism in utero. Dr. Still thought that in considering the pathology of this condition there were two facts in particular which could not be overlooked—the occasional occurrence of an "idiopathic hypertrophic stenosis of the pylorus" in adults and the increasing evidence that some of the cases of congenital hypertrophy of the pylorus recovered. On the whole, it seemed most probable that the condition was intra-uterine in its origin, but the cause must be a potentially transient one and therefore a functional disturbance seemed more in accordance with the facts than a vice of developmental growth. There were moreover cases which seemed to support this view by analogy, particularly cases in which the œsophagus was found to be hypertrophied without any demonstrable cause.

Dr. E. CAUTLEY showed three specimens of the same condition from infants aged respectively 15, eight, and seven weeks. Vomiting had been almost constant since they were three weeks old. In none was any etiological factor discoverable. Dr. Cautley held that this was a pre-natal condition and that the hypertrophy took place in the circular muscular fibres. The stenosis was largely due to plication of the mucous membrane by the muscular spasm. He thought that hyperplasia of the muscular fibre took place in the fœtus.—Dr. ROLLESTON showed a similar specimen taken from a child who died when eight weeks old. He agreed that the hypertrophy was probably due to spasm. Metzler, however, had doubted whether spasm had ever been shown to cause hypertrophy in the case of unstriped muscle and he asked for an expression on that point.—Dr. F. E. BATTEN said that he had recently had what appeared to be a case of this kind under his care. The pylorus was palpable and there was continuous vomiting and constipation. The child was fed by a nasal tube, as recommended by Dr. John Thomson, and the vomiting ceased; before the child left hospital it had been fed by the mouth without serious vomiting for two weeks. This improvement, however was not kept up and a week ago the mother reported that the vomiting had returned.

Mr. S. G. SHATTOCK submitted a new interpretation of the phenomenon known as the "Buffy Coat" which he illustrated by microscopic and other preparations, maintaining that the principal factor was rapid clumping of the red corpuscles and not, as commonly taught, simple retardation in coagulation. He believed that this clumping was due to some agglutinating substance which varied in amount in different animals. In the cat it was scanty, and if cat's blood was received into an equal quantity of salt solution and clotting deferred by keeping in ice no well-formed buffy coat resulted. If, on the other hand, the cat's blood was received into an equal quantity of horse's blood which was rich in agglutinating substance, subsidence of the clumped red cells quickly commenced and a well-formed buffy coat resulted if the tube were kept in ice. A similar effect was observed if horse's serum were mixed with human blood. But the most striking clumping was seen when serum from the blood of a patient suffering from pneumonia was added to a hanging drop of human blood. (A specimen was shown.) He regarded the agglutination of the red discs as due to the same substance which clumped the diplococci of pneumonia in living cultures and therefore was a form of Durham's, or more correctly of Widal's, reaction, since it was obtainable during the stage of infection.—Mr. D'ARCY POWER observed that Mr. Shattock's observations tended to reinstate the older physicians who were accustomed in pneumonia to bleed repeatedly until the blood no longer gave a buffy coat.

Mr. STANLEY BOYD showed Microscopic Sections of a New Growth of the Rectum which had the clinical characters of a columnar epithelioma but which histologically seemed to be an alveolar sarcoma. The patient was a woman, 35 years of age. Almost every one of the large cells of which the growth consisted seemed to be in a separate space in the delicate fibrous stroma. The case was interesting also because the cæcum perforated on the third day after colotomy had been performed and obstruction was freely relieved. She lived 30 days after the perforation, suffering chiefly from dyspnœa due to distension of the abdomen by intestinal gases. Post mortem the gas was found to be contained in a huge cavity in which no viscera were visible. They lay behind a thick layer of lymph and though compressed were healthy. There were no signs of peritonitis behind the layer of lymph. The tumour was referred to the Morbid Growths Committee.

Dr. LAZARUS-BARLOW showed a Dilated Œsophagus of a man, aged 28 years. It was the seat of a fusiform dilatation which at its greatest circumference measured three and a half inches. The history was indefinite, but it appeared certain that difficulty of swallowing and frequent vomiting which had led to the surgical passage of œsophageal bougies had existed for at least a year. The chief symptoms were immediate regurgitation of food upon its ingestion and extreme emaciation. Laparotomy was performed upon the suspicion that there was disease of the stomach, but nothing abnormal was found in the stomach or elsewhere. The patient died on the ninth day after admission and the third after laparotomy from asthenia. At the necropsy general miliary tuberculosis was found, but it was not extensive and was chiefly confined to the upper lobe of the left lung. It could only be regarded as an adjuvant cause of death. The muscle of the œsophagus was greatly hypertrophied and had undergone no change that might not fairly be ascribed to post-mortem decomposition. Since it had been recently shown by Langley that the vagus contained fibres which on stimulation lead to dilatation of the lower end of the œsophagus the vagus was examined in this case by Dr. S. F. Grünbaum, but sections presented no definite evidence of either recent or former degeneration of the nerve.—Dr. **ROLLESTON** showed, for Dr. **WARDROP GRIFFITH**, a similar specimen. Dr. Rolleston thought that the cases were best explained not on the supposition of the existence of a "cardiospasm" but of defective action of the longitudinal fibres of the œsophagus so that the cardiac orifice did not open. Dr. Griffith had suggested that the atonic œsophagus might be further dilated through the negative pressure in the thorax.—Dr. **STCLAIR THOMSON** mentioned the case of a patient who had suffered for many months from Dysphagia and Vomiting supposed to be due to Malignant Disease. He believed that the œsophagus was dilated in this patient and as one vocal cord was paralysed from implication of laryngeal nerves he thought that similar involvement of the vagus might be the cause of the dilatation of the œsophagus. He asked Dr. Lazarus-Barlow whether he had examined the nerves at the base of the skull in his case.—Dr. **PARKES WEBER** also asked for information as to the condition of the brain, observing that symptoms of stricture of the cardiac orifice might be produced by chronic internal hydrocephalus in the adult.—Dr. **LAZARUS-BARLOW** said that he had not examined the brain.

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[8] Tuberculous Disease of Bones and Joints, p. 168, Edinburgh, 1896.

Dr. **R. G. HEBB** showed a specimen of Colloid Cancer of the Stomach from a woman, aged 36 years, who had had pain and vomiting for some months before death. No tumour could be felt during life. The œsophagus was found to be hypertrophied and slightly dilated and there were many corn-like elevations in the walls. The walls of the stomach were infiltrated with colloid cancer and the pyloric half was ulcerated. There was enlargement of the glands just below the diaphragm. On section they contained large spherical carcinomatous cells, but there was no colloid degeneration.—Dr. **LAZARUS-BARLOW** asked whether the "corns" on the œsophageal lining were looked on as malignant and as indicating an extension along the course of the lymphatics.—Dr. **HEBB**, in reply, said that he had not examined the elevations microscopically, but he regarded them as simple thickenings and not malignant.

Dr. **C. D. GREEN** showed a Papillomatous Tumour of the Umbilicus which he had removed by operation from a woman 50 years of age. The macroscopical characters of the specimen were simply those of an ordinary cutaneous papilloma but the histological examination showed the presence of gland structures and of unstriped muscular tissue. The majority of the gland structures were lined with long columnar epithelium with large deeply staining nuclei situated quite near the basement membrane and were considered to be reproductions of the intestinal glands known as Lieberkühn's crypts, differing from the normal intestinal structures in their exaggerated dimensions and in the absence of any definite arrangement. The surface of the tumour was covered with stratified epithelium of the cutaneous type, the superficial layers of which had undergone keratinisation, and this superficial epithelium sent processes into the deeper parts giving rise to a papilliform appearance. No cutaneous gland structures were seen. Dr. Green considered that the tumour was derived from the remains of the vitello-intestinal tract, but that it differed from other published cases of the same nature in being covered with epithelium of the cutaneous type and as regarded the age of the patient. The specimen was referred to the Morbid Growths Committee.

The following card specimens were shown:—

Dr. **CAUTLEY**, Dr. **MORLEY FLETCHER**, and Dr. **ROLLESTON**: Specimens of Congenital Hypertrophy of the Pylorus.

Dr. **LEONARD GUTHRIE**: A specimen of Meckel's Diverticulum forming part of an Umbilical Hernia.

Dr. **H. B. HICKMAN**, Dr. **A. F. VOELCKER**, and Dr. **PARKES WEBER**: Specimens of Carcinoma of the Stomach.

OBSTETRICAL SOCIETY OF LONDON.

Annual Meeting.—President's Address.—Appointment of Officers.—Exhibition of Specimen.

THE annual meeting of this society was held at 20, Hanover-square, W., on Feb. 1st, Dr. **C. J. CULLINGWORTH**, President, being in the chair.

The reports of the treasurer, honorary librarian, and chairman of the Board for the Examination of Midwives having been read, received, and adopted the retiring President, Dr. **CULLINGWORTH**, delivered his Annual Address. He said that although the work of the secretaries in that society was by no means a sinecure and was, indeed, heavier and more exacting than anyone not intimately acquainted with the official nature of the society would suppose, there was one duty from which they were exonerated—namely, the preparation of an annual report. It had always been usual in that society for the President at the close of his year of office to give an account of the condition of the society and of the work done during the year. Following this long-established custom he had to begin by deploring a further slight falling off in the number of Fellows. The total number of Fellows on the roll on Jan. 1st, 1898, was 711, comprising 11 honorary and corresponding Fellows and 700 ordinary Fellows. During the year the society had lost 12 Fellows by death (including a death which occurred in 1897 and had been accidentally overlooked) and 30 by resignation. 22 new Fellows had been elected. Hence the number on the roll had been reduced by 19. The present total (Jan. 1st, 1899) was 692, of which number 10 were honorary and corresponding Fellows and 682 ordinary Fellows. This diminution in numbers ought not to be and would not be if only each one would bestir himself in the way of beating up recruits. During the past year the Council, acting in conjunction with the Board for the Examination of Midwives, had drawn up a code of rules and regulations to be observed by midwives holding the society's certificate. These rules had now been printed and circulated and a copy would be supplied to every Fellow of the society in the form of an appendix to the forthcoming volume of Transactions. He (the President) regarded the preparation and issue of these long-wanted rules as quite the most important event which had happened in the society during his term of office. In the matter of its examination for midwives the society continued to suffer from a certain amount of professional opprobrium which, though entirely undeserved, was probably in some degree responsible for the decrease in their numbers. He wished once more to remind their professional brethren that the society undertook the work from a sense of public duty and merely as a temporary expedient after having tried in vain to induce the Government to move in the matter; he assured them that it would be only too glad to relinquish it whenever the State could be prevailed upon to take upon itself functions which properly belonged to it and which it alone could adequately fulfil. The President proceeded to review the scientific work of the society during the past year, giving a brief abstract of each of the papers read, 15 in number (10 obstetrical and five gynæcological), and classifying the specimens shown in groups according to the particular subject which it was the intention of the exhibitor to illustrate. The names of the deceased Fellows were then announced, each announcement being followed by an obituary notice. The first and longest notice had reference to the late Dr. Charles West, an honorary Fellow and Past-President of the society, and the other names mentioned included those of Dr. Karl Liebman of Trieste, Dr. Leonard Remfry, Brigade-Surgeon Joseph Johnston, Mr. E. Arnold Praeger of California, Deputy-Surgeon-General John R. Miller Lewis, M.D. Glasg., Dr. George Roper, Dr. John Wallace of Liverpool, Dr. W. F. Cleveland, Dr. C. E. Fitz-gerald of Folkestone, Mr. Alfred Kebbell of Flaxton, York, and Professor A. A. Kanthack of Cambridge. The address concluded with a word of farewell and of thanks to the Fellows and especially to the President's colleagues in office for the help and support uniformly accorded to him in the conduct of the society's business both in the general meetings and in the council room In resigning this chair, said Dr Cullingworth "it is a satisfaction to me to know that its next occupant is to be one of whose contributions to scientific gynæcology all British gynæcologists are justly proud and whose irrepressible but never unkindly humour may be relied upon to relieve the dulness of even your very driest debates I congratulate you and I congratulate him The best I can wish him is that his tenure of this high office may be as pleasant and as peaceful as mine has been

The following officers and members of council were appointed for the year 1899 —President Mr Alban Doran Vice Presidents Dr John W Byers (Belfast) Dr William Radford Dakin Dr William Duncan and Dr Jamieson Boyd Hurry (Reading) Treasurer Dr James Watt Black Chairman of the Board for the Examination of Midwives Dr Percy Boulton Honorary secretaries Dr John Phillips and Dr Herbert R Spencer Honorary librarian Dr Amand Routh Other members of the Council Dr Augustus W Addinsell Dr John Ford Anderson Dr A H Freeland Barbour (Edinburgh) Dr George Francis Blacker Dr Robert Boxall, Dr Thomas Watts Eden Dr Angus Fraser Dr Arthur Edward Giles Dr Thomas Crawford Hayes Dr Ernest Herman Dr John Dysart McCaw, Dr Arthur Nicholson (Brighton) Mr Richard Pinhorn (Dover) Dr William Loudon Reid (Glasgow) Dr Charles Hubert Roberts Dr George H Drummond Robinson Dr William Japp Sinclair (Manchester) and Dr Arthur Francis Stabb

On the nomination of the council the following distinguished persons were unanimously elected to the honorary Fellowship of the society—viz Professor Olshausen of Berlin Dr Budin and Dr Pinard of Paris Dr A F Martin of Berlin Dr H Oldham of Bournemouth (an original Fellow and Past President of the society) and Mr Hutchinson of London

Certain proposed alterations in the laws were then confirmed and the meeting concluded with votes of thanks to the retiring President Vice-President, and members of council

A specimen of Tubo Ovarian Abscess was shown by Dr CULLINGWORTH at the commencement of the meeting

HARVEIAN SOCIETY OF LONDON

Hygroma of the Neck —Congenital Deformities of Limbs —Mumps —Middle ear Disease

A CLINICAL meeting of this society was held on Feb 2nd the President Mr HENRY JULER being in the chair

Mr RAYMOND JOHNSON showed a girl aged eight years who was the subject of a large congenital Cystic Hygroma of the Neck She had been under observation since the age of 16 months and the tumour had progressively but slowly diminished in size On three occasions the tumour had been the seat of attacks of violent acute inflammation during which the swelling became enormously increased in size and there was rather severe constitutional disturbance On each occasion the inflammation subsided spontaneously and was followed by a more rapid shrinking of the tumour One of the largest cysts had been treated by drainage but in view of the very marked tendency of the tumour to shrink and its extent and diffuse character it was not proposed to make any attempt to remove it by operation —Mr D'ARCY POWER said that such growths when they occurred in the neck seemed always to involve the lobule of the ear as the early photographs showed had been the case in this child At the present time however the lobule of the ear was separated from the growth by a considerable distance Mr Power alluded to four other cases of a similar kind in the same situation upon which he had lately operated He had been able to remove the bulk of the growth in three of the cases but in the fourth it was so extensive and it involved such important structures that much had to be left behind Yet in this case the remainder of the growth absolutely vanished in the course of a few months and after attacks of lymphangitis like those described by Mr Johnson Mr Power stated in reply to a question by Dr Joll that these tumours were known to the older pathologists as hygromata or barren cysts Hygroma from the Greek ὑγρὸς because they were supple and barren because having only an endothelial lining they did not proliferate

Mr JACKSON CLARKE showed a girl aged three years who had several Congenital Deformities When he first saw the patient at the age of six months the thumbs were firmly adducted into the palms and the forearms were abnormally curved with a forward concavity There was also marked double equino varus About the middle of the forearms and legs there were depressed scar like marks one over the middle of each of the bones on the extensor aspect In the legs a small nodule of bone could be felt beneath each of the marks The mother said that the birth was 'very dry' Mr Clarke thought that the abnormalities were explained by a deficiency of liquor amnii allowing of abnormal intra uterine pressure upon the fœtus The deformities of the hands and feet completely recovered under gradual *methods* Mr Clarke wished to express his preference for such methods over procedures such as Phelps's operation which in his opinion was undesirable as applied to club foot in children —Mr D'ARCY POWER asked Mr Jackson Clarke whether he had been able to elicit any history of syphilis in this case or whether there was any evidence of placental inflammation He thought that the dimpling had been caused by the presence of allantoic bands for it was so exactly symmetrical The irritation of the bands had led to the slight hypertrophy of the bone underlying each dimple —Mr JACKSON CLARKE replied that he had not been able to obtain any evidence of syphilis in his case and in answer to a question by Mr Johnson he stated that the feet had been treated with the splint which he usually employed in such cases—a strip of tinned iron applied to the outer side of the leg and foot and gradually bent so as to overcome the deformity

Dr EWART showed a case of Mumps with Marked Enlargement of the Spleen The patient a boy aged 13 years was admitted into hospital on the third day of the attack with a characteristic swelling of the left parotid The affection remained limited to the left side and ran a mild course without pyrexia The only complication was an enlargement of the spleen which persisted for several days and gradually subsided as the parotid gland returned to its normal size Dr Ewart had not found in text-books any reference to this complication which may perhaps sometimes occur unnoticed In this case it gave rise to no symptoms The dulness measured six and a half inches in the horizontal and five inches in the vertical direction The enlargement took place upwards the spleen projecting half an inch only below the costal arch The spleen when percussed at the meeting was of normal size and yielded the 'bony' percussion note which as recently pointed out sometimes replaces the splenic dulness A specimen of the blood had been stained for micro organisms by Mr Hunt with negative results —Dr C O FOWLER and Dr MAGUIRE discussed the case and Dr EWART replied

Dr G WILLIAM HILL showed a young woman who had been the subject of Chronic Suppuration in the Middle Ear and who for two years had suffered from Facial Paralysis associated with Paralysis of the corresponding half of the Soft Palate No evidence of diphtheria was obtainable The interest of the case consisted chiefly in its bearing upon the question as to whether or not the muscles of the palate received any part of their nervous supply from the facial —Dr HERBERT TILLEY said that if the case was one of combined facial and unilateral palatal paralysis it would seem to point to the fact that the palate may have a double nerve supply the facial through the Vidian and the spinal accessory by the pharyngeal branches of the vagus That the latter innervation is the most constant (and probably the sole one) had been experimentally proved beyond any doubt by Horsley and Beevor in monkeys whilst clinical evidence was almost altogether in favour of the view He then referred to three cases of the kind which had recently come under his notice

Dr EWART and Mr E L HUNT described a case of Diphtheritic Membranous Tracheitis with temporary obstruction of the right bronchus in the adult and exhibited a series of tubular casts of the trachea expectorated on the third fourth and fifth days of the attack by a woman aged 32 years who was now recovering after a pyrexial period of 19 days from a severe pulmonary catarrh due as shown by repeated cultivation to diphtheria She had been injected on the third and on the fifth days with 4000 units of antitoxin On the third day the laryngoscope had shown the presence of membrane immediately above the glottis For several days there was loss of respiratory sounds and diminution of right respiratory movements With the return of the respiratory function abundant râles developed The patient was aphonic for 15 days; but the cough was not "croupy" and there was no stridor or spasm of the glottis. An alarming attack of heart failure had occurred on the tenth day, but neither albuminuric nor paralytic symptoms have made their appearance.—Mr. E. L. **HUNT** gave details of the administration of the antitoxin.

PATHOLOGICAL SOCIETY OF MANCHESTER.

Cubitus Varus following Fracture of the Lower End of the Humerus.—Charcot's Joint Disease.—Tuberculosis of the Liver.—Ulceration of the Cæcum.—Exhibition of Card Specimens.

A MEETING of this society was held on Jan. 18th, Dr. R. B. **WILD**, President, being in the chair.

Mr. J. E. **PLATT** discussed the Pathology of Cubitus Varus following Fracture of the Lower End of the Humerus and illustrated his remarks by a number of skiagrams. After briefly referring to the various kinds of fracture which may occur in the lower end of the humerus he said that cubitus varus had been met with as a result of the following injuries: (1) oblique fracture of the external condyle extending into the elbow-joint, with permanent displacement downwards of the loose piece of bone; (2) oblique fracture of the internal condyle with displacement upwards of the loose fragment; (3) transverse supra-condylar fracture with tilting of the fragment, so that the trochlea lay at a higher level than the capitellum; and (4) separation of the epiphysis. It was stated that when cubitus varus followed separation of the epiphysis its pathology was more complicated and that the deformity might be produced in at least three different ways: (1) from the line of fracture in these cases being usually partly epiphyseal and partly diaphyseal, with frequently some inward displacement of the fragment (imperfect reduction under such circumstances would be very liable to lead to cubitus varus); (2) from rotation of the epiphysis around the convex end of the diaphysis; and (3) from irregular growth at the epiphyseal line after the union of the fracture. It had been found as a result of the examination of a number of cases of epiphyseal separation some years after the injury that in two patients cubitus varus had gradually supervened although the fracture had united without deformity in the first instance. This was attributed to the epiphyseal cartilage having been permanently damaged by the accident.

Mr. **SOUTHAM** showed two specimens of Charcot's Disease of the Ankle-joint removed by amputation below the knee from male patients, aged respectively 44 and 49 years, the subjects of locomotor ataxy. In both cases extensive erosion of the articular surfaces had taken place in consequence of which the foot had become dislocated upwards and outwards and in one instance the internal malleolus had projected through the skin.

Dr. F. C. **MOORE** described the morbid features of two uncommon forms of Hepatic Tuberculosis and exhibited the specimens. The first, an example of the so-called "large solitary tubercle," was found in a male, aged 43 years, in association with a similar lesion in the spleen, tuberculosis of the aortic lymphatic glands, and a typical carcinomatous stenosis of the pylorus. The other organs were healthy. The second, an example of tuberculous hepatitis, was met with in a rabbit which had been inoculated 12 months previously with a few highly virulent tubercle bacilli. The interstitial changes consisted in an increased formation of fibro-cellular tissue, monolobular in distribution, which showed no tendency to tubercle formation. Psorosperms were absent. The lungs were the seat of extensive tuberculosis.

Dr. **MARSDEN** showed a preparation from a case of Ulceration of the Cæcum.

The following card specimens were exhibited:—

Dr. T. A. **HELME**: Gynæcological Specimens.

Mr. **HITCHON**: Chronic Gastric Ulcer.

Dr. **LEA**: A series of Uteri removed by Vaginal Extirpation.

Dr. **MOORE**: Psammoma

Mr. **SOUTHAM**: Tuberculous Mesenteric Gland sloughing into the Intestine.

Dr. **WALLS** Fœtus Papyraceus

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.—Treatment of Ozæna.—Moveable Kidney.

THE fifth ordinary meeting of this society was held on Feb. 1st, Sir JOHN BATTY **TUKE**, President, being in the chair.

Dr. ROBERT **FLEMING** showed a family consisting of the mother and four children all apparently suffering from Addison's Disease. With reference to the mother it was stated that after each successive pregnancy her skin became darker, but this disappeared to a great extent until after her last pregnancy which occurred two years ago. Since then she had complained of ill-health; her skin was dark in colour and this darkening was noticed to be more marked in summer than in winter. There were no dark markings on the buccal mucous membrane, but many black spots (moles) had appeared recently on the skin of the face, arms, and body. She suffered from vomiting and diarrhœa, faintness, and extreme languor. The four children also presented the same combination of symptoms. The eldest, a girl, aged seven years, who began to become pigmented four years ago, was fair at birth but was now dark and had a large number of moles. The next child was also a girl, aged four years, and presented exactly the same appearances, as did also a boy, aged three years. The youngest, aged two years, had been noticed to be darker and several moles had recently appeared. The cases had not been treated with suprarenal extract, but were apparently benefited by taking arsenic and other remedies.

Dr. WILLIAM **RUSSELL** and Mr. **COTTERILL** showed a boy after operation for Mastoid Abscess and Empyema. The lad was seen in consultation on Nov. 27th, 28th, and 29th, 1898, but had been ill for more than a week previously. He had severe rigors for two days and on examination pleural friction on the left side was evident. On the 28th the friction had disappeared and there was no effusion, but rigors continued, and it was not until the 29th that he complained of pain in the left ear and there was swelling and tenderness over the mastoid and it became evident that the rigors were due to mastoid disease. Four days later he was admitted to the infirmary under the care of Mr. Cotterill. The point of interest was that the rigors continued without any ear symptoms showing themselves for several days. The pulse was never above 60 and this slowing was probably due to compression of the brain, as after the operation and the evacuation of intradural pus the pulse regained its normal frequency. Some days after the ear operation pus was evacuated from the right pleura. Mr. Cotterill remarked that there were many signs of phlebitis of the lateral sinus, as swelling and tenderness low down in the neck. These signs were absent in this case. On operation the mastoid antrum was found to be comparatively healthy, there being only a little inspissated pus present. The abscess extended backwards towards the cerebellum and downwards through the jugular foramen.

Dr. **SHENNAN** showed microscopic preparations of (*a*) the Vessels from a case of Tuberculous Meningitis; (*b*) Section through the Glans Penis with early Tubercle (giant cells) under the Urethral Mucous Membrane; (*c*) ordinary long form of the Diphtheritic Bacillus; and (*d*) Organism from Cancrum Oris. This was separated 24 hours post mortem. It somewhat resembled the diphtheria bacillus and Kanthack said that it was allied to it or was a debased form. It appeared like an involuted form of Löffler's bacillus with clubbed ends. A pure cultivation of the diphtheritic bacillus was obtained from the same case during operation. From a case of acute spreading gangrene a similar culture to the present was obtained.

Dr. ROBERT **FLEMING** exhibited two Mammillated Stomachs. One was obtained from the body of a woman, aged 54 years, who died apparently from excessive vomiting. There were curious little projections over the whole of the mucous surface. The second was from a case of chronic gastric catarrh due to heart disease. Another specimen showed a chronic gastric ulcer which was adherent to, and had penetrated into, the liver. Dr. Fleming also showed a Heart with Aneurysm of one of the Sinuses of Valsalva.

Dr. WILLIAM **STEWART** and Dr. JOHN **THOMSON** exhibited a specimen of Congenital Malformation of the Œsophagus. The child seemed able at first to swallow small quantities of milk-and-water. Later all was returned. On passing a bougie down the gullet it stuck at a point about three inches. Gastrostomy was performed but the infant died. The specimen showed that the upper end of the œsophagus ended blindly in a test-tube-like manner about an inch from its commencement, while the upper end of the lower portion opened directly into the trachea.

Mr. **COTTERILL** showed part of the Large Intestine, showing the Line of Suture (almost invisible) after Enterectomy performed 11 years previously for a gangrenous umbilical hernia; 22 inches of the bowel were removed at that time.

Dr. **PETER McBRIDE** read a paper on the Treatment of Ozæna, with Special Reference to Cupric Electrolysis. He drew attention to the characteristic atrophy of the nasal mucous membrane in such cases, the change of the ciliated epithelium into the flat form, and to the drying and extreme fœtor of the secretion. As a rule no ulceration could be detected; the atrophy chiefly affected the inferior turbinated bone. Numerous organisms were present in the nose and a modified form of Loffler's bacillus was found. The disease usually began about puberty and was considered as an almost incurable malady. The therapeutic principles which had been in use were chiefly (1) the destruction of the secreting membrane, as by curetting, &c. 2. The application of stimulating and irritating remedies; palliatives had perhaps been most efficacious. The electro-cautery had been used as well as "vibratory massage," carried out by means of a probe armed with wool which when introduced into the affected parts of the nares was rapidly made to vibrate either by the hand or by an electric motor. This latter treatment had, however, in some cases produced hypertrophy of the mucous lining. 3. Widening of the nasal chambers by means of obturators, &c., in order to favour expulsion. Sprays of ichthyol and glycerine or other antiseptics were satisfactory. The injection of diphtheritic antitoxin had been employed because of the presence of the organism which resembled Löffler's. One observer stated that by this treatment he had cured 16 cases out of 32. Dr. McBride then described the mode of treatment by cupric electrolysis and related a number of cases treated thus by himself. Of eight unselected cases (two males and six females) four were practically cured. At least, they remained so for long periods—18 months. The others had been treated at so recent a period that it was impossible to say whether they were permanently cured. The current used varied from three to 10 milliampères. Cocaine was used as an anæsthetic. The copper needle was attached to the positive pole and was inserted into the inferior or middle turbinated bone, while the platinum or steel needle was inserted into the septum. There was little or no pain either at the time or subsequently. The beneficial effects might be as largely due to the copper salts produced as to the electricity. If the cases relapsed the treatment required to be repeated perhaps twice yearly, but at any rate it seemed to be a valuable therapeutic remedy for a most obstinate disease.—Dr. **LOGAN TURNER** remarked that the interest in the treatment lay in the possible *rationale*. Even after cupric electrolysis the same organisms were found in the nose as before; the treatment was therefore not bactericidal and the good effects were seen in both nostrils though the application was made to one alone. It must rather be a trophic action and the serum treatment might act in a similar manner by causing a general stimulation and a consequent throwing off of the crusts.—Dr. **GEORGE HUNTER** drew attention to the good effects produced by applying blistering fluid to the atrophic areas.—After some remarks by Dr. **SHENNAN** Dr. **McBRIDE** replied.

Dr. **DAVID WALLACE** read a paper on Moveable Kidney. After briefly sketching the history of this affection as recorded by various writers he noted that it occurred more frequently in females than in males and that the right kidney was more often free than the left. Formerly it was said to be a commoner affection amongst the poor than amongst the rich. This assertion was controverted by Greig Smith who stated that tennis, riding, &c., were as frequent causes amongst the well-to-do as over-frequent pregnancies and curtailment of rest amongst the poor. The experience of Dr. Wallace went to prove that statement. He thought that a loss of fat predisposed to the condition. On the other hand, however, it might only render the moveable kidney more easy of palpation. Was emaciation really the cause or the effect? He referred to the recent anatomical descriptions of the kidney surfaces and pointed out how a variation in its normal anatomical relationship was the probable cause of the condition. Dr. Wallace thought that the ordinary degree of mobility of the kidney was its safeguard and that when it was too tightly fixed then there was a greater likelihood of its becoming free. As a rule detection of the condition was not difficult. The moveable kidney was thought to be larger than normal merely from its free movement under the fingers. The usual symptoms of this affection were—(1) mobility of the organ itself; (2) pain of a dragging or aching character; (3) renal pain was distinctive; there might be hæmaturia or intermittent hydro nephrosis; and (4) gastro-intestinal derangements which might end in neurasthenia. These gastric symptoms were due probably to a dragging down of the duodenum. The moveable kidney was usually quite normal, though in some cases it was the seat of a calculus. The symptoms usually entirely disappeared on fixing the organ in its normal position. Intermittent hydro-nephrosis was an infrequent symptom. If the tumour be present it might hide the condition as the kidney might appear to be fixed. As regards treatment there were three classes of cases. 1. Those where no treatment was necessary. In such cases nothing should be said to the patient regarding the condition which was usually made out while examining for some other disease. 2. Those benefited by wearing a pad. 3. Those where operation was necessitated. Of 14 cases treated by Dr. Wallace one occurred in a male as a result of a fall from a horse and was treated by operation, while 13 were in females. Two cases were of the gastro-intestinal type and were successfully treated by the wearing of a distensible air-pad which was fixed over the region of the kidney to the inner side of the corset. Such a pad was much more useful than the solid forms fixed to belts. The method of operation carried out in several of the others was that of separating the perirenal fat and cutting it off, then three or more deep catgut sutures were introduced through the cortex, and the kidney was fixed as high up as possible to the abdominal wall.—Mr. **COTTERILL** remarked that his worst cases had occurred in multiparæ and that the amount of displacement bore no relation to the severity of the symptoms. He described the method by which he fixed the kidney, transfixing the posterior abdominal wall and bringing both ends of the silkworm ligature to the skin surface and tying them together.—Dr. **WILLIAM RUSSELL** remarked that many of the women inmates of Queensberry House had moveable kidney. In making post-mortem examinations he found the kidney freely moveable under the peritoneum as far as the spine or brim of the pelvis. He could not see that the moveable kidney had any connexion with the duodenum so as to produce symptoms of stricture and related the case of a woman who suffered from prolapse of all her abdominal organs, the pylorus being at the level of the umbilicus, and yet there was no effect produced on it by the freely moveable kidney.—After other remarks by Dr. **STILES**, Dr. **LUNDIE**, and Dr. **CHURCH**, Dr. **WALLACE** replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Juvenile Muscular Atrophy.—Beri-beri.

A MEETING of this section was held on Jan. 27th, Dr. J. W. **MOORE**, the President, being in the chair

Mr. **LANGFORD SYMES** exhibited a case of Erb's Juvenile Muscular Atrophy. The patient was a boy, aged eight and a half years. He had been ailing since he was two years old, when he was learning to walk. If he fell he could not get up alone. He was now becoming more helpless, could not walk up stairs, and was unable to get in or out of bed.

Mr. **CONOLLY NORMAN** read a paper on the Clinical Features of Beri-beri, analysing the symptoms in some detail. Heart troubles were the most serious. An invariable condition was tachycardia with extreme irritability of the pulse. Unconformability of the heart and pulse was frequent and striking. Variable murmurs most commonly heard in the pulmonary area were not infrequent, also reduplication of the first or second sound. The heart was frequently dilated and this dilation (chiefly affecting the right side) often came on with singular [illegible] lity. Death from heart involvement [illegible] rring quite suddenly and in [illegible] after a prolonged ag occurring primarily in the lower extremities, and sometimes confined to the legs, consisted of various degrees of superficial anæsthesia and hypæsthesia combined usually with paræsthesia and hyperæsthesia (painful anæsthesia). Deep (muscular) tenderness and tenderness of the nerve trunks co-existed with loss, diminution, or alteration of superficial sensation. Spontaneous pain (aching and cramps in the muscles, painful formication in the skin) was common. Œdema, in Mr. Norman's opinion, was probably always present, though sometimes very slight and transitory. It varied in character, being usually less marked than in ordinary anasarca, say from Bright's disease, and sometimes approaching closely to the "solid œdema" of the myxœdematous state. It might be slight, fugacious, and confined to the pretibial region, or it might spread all over the body. Cases which were highly œdematous constituted the so-called "wet form" of beri-beri. Effusions into the joints were rare, but common in the serous cavities, especially in the pleura and pericardium. In the latter situation they often accelerated death which might be also brought about or hastened by œdema of the lungs. The motor symptom was paralysis of various muscles or groups of muscles. The muscles first attacked were usually those supplied by the peroneal nerve. The gait in well-marked cases was characteristically neuritic. The greater engagement and less resistance of the extensors gave the shifting equilibrium in standing, the dropped and inverted foot, the high action in walking (*démarche du stopper*). The paralysis rarely involved the upper extremities. The muscles of respiration not rarely suffered, particularly the diaphragm, a fact which constituted one of the dangers of the disease. Beri-beri appeared to be spreading. Since 1894, when, as his audience were aware, it first appeared in the Richmond Lunatic Asylum in Dublin, epidemics had been reported from two asylums in the United States, a few cases strongly recalling beri-beri had been reported from German Asylums, and an epidemic had occurred in the autumn of 1697 in an asylum in the South of France which attacked 150 patients of whom about 40 died.—Dr. SMITH, Dr. LITTLEDALE, Surgeon-General POTTER, and others having discussed the paper, Mr. NORMAN, in reply, said that Manson's opinion that the poison of the disease lurked about the soil of buildings seemed to be supported by appearances. He could not explain why beri-beri should occur chiefly in asylums in this country and amongst the epileptics in those institutions.

SECTION OF PATHOLOGY.

Agglutinability of the Typhoid Bacillus.—Exhibition of Specimens.

A MEETING of this section was held on Jan. 13th, Dr. J. M. PURSER, the President, being in the chair.

Dr. E. J. MCWEENEY read a note on the Agglutinability of Different Races of the Typhoid Bacillus. He described how he had been obliged to suspend temporarily the sero-diagnostic work at the Mater Misericordiæ Hospital owing to the peculiar behaviour of a strain of typhoid fever bacilli, called, for brevity's sake T.A., which he had isolated by the usual methods from the bile of a fatal case of typhoid fever. Death had occurred in this case from cardiac failure nine days after defervescence and at the necropsy the ulcers in the small intestine were healed but there were many open follicular ulcers in the colon. The bacillus T.A. was present in the bile in great numbers and pure culture. It presented the cultural characters of genuine Eberth's bacillus. Distinctive peculiarities were the extreme slowness of its growth on gelatin plates, the fewness, delicacy, and shortness of the flagella, and the fact that although the mobility was extremely active during the first 12 hours of culture it had died down by the end of 24 hours to a waggling movement hardly distinguishable from that of bacillus coli. Tested against the serum of several typical cases of typhoid side by side with a typical race obtained from Professor Lorrain Smith of Belfast it proved markedly resistant against agglutinating influences. The dilutions generally practised were 10 per cent., 1 per cent., 0·2 per cent., and 0·1 per cent. Sera of cases in the third week, which clumped the Belfast bacillus instantaneously in 10 per cent. dilution, and left the field quite clear of isolated organisms, took an appreciable time to clump T.A., and after the lapse of half an hour the field was quite free from scattered bacilli. In the one in 100 dilution, where the Belfast bacillus was well clumped at the end of the observation period (from two to five hours), T.A. was so imperfectly agglutinated that diagnostic inferences could not be drawn—in fact, with the higher dilutions these two races of undoubted typhoid bacilli gave directly opposite sero-diagnostic results. The speaker went on to discuss the significance of the expression "agglutinable" in the light of the recent work published by Kraus and Nicolle, proving that the phenomenon was the result of the interaction of two substances, one contained in the serum, the other in (and subsequently outside of) the bacterial bodies, which played a purely passive *rôle*; he pointed out that the serum need not necessarily be *immune*, nor was the phenomenon essentially specific; and finally, the interesting work of Bordet was described as showing how, quite apart from bacterial action, the serum of the rabbit agglutinated guinea-pig's serum containing red corpuscles, causing these latter to form "clumps," and how, if the serum of the guinea-pig which exercises but a slight agglutinative action on the corpuscles in rabbit serum be taken from a guinea-pig which had previously had rabbit's blood injected a few times, the agglutinative action of the guinea-pig serum was greatly increased.

Dr. KNOTT exhibited 19 Femora and 19 Tibiæ presenting various anatomical, anthropological, and pathological peculiarities; three of the femora were affected with coxa vara.

Mr. CONOLLY NORMAN exhibited a specimen of Peritoneal Tumour which occurred about the junction of the jejunum and ileum and appeared to spring from the peritoneum covering the anterior wall of the intestine; it was of oval shape, of about the size of a goose's egg, and in colour and consistence, both externally and on section, strongly resembling a uterine fibroid. The growth had penetrated the intestine, an irregular ulcerated surface, not fungating, and of about the size of a sixpence, showing in the gut. The patient died from repeated hæmorrhages from this point. No other new growths were discovered and the uterus and ovaries appeared to be perfectly normal. In Mr. Norman's opinion the tumour was a sarcoma.—Dr. E. J. MCWEENEY and Dr. A. R. PARSONS were inclined to think that it was a myoma.

Dr. COLEMAN exhibited: (1) A Glioma of the Cerebral Hemisphere; (2) a Tuberculous Tumour of the Cerebellum; and (3) an Abscess of the Cerebellum.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 3rd in the society's rooms at the West London Hospital, Dr. S. D. Clippingdale, President, being in the chair.—A discussion on the Treatment of Appendicitis was introduced by Dr. Seymour Taylor and Mr. McAdam Eccles and was carried on by Dr. Donald Hood, Mr. Keetley, Mr. Bidwell, Dr. Cayley, Mr. E. T. A. Boyton, Dr. George Eccles, Mr. Lunn, and Dr. Dobson.—Dr. Seymour Taylor considered that the physician's advice was of great weight in two periods of the disease—(1) the preventive period when by so ordering the patient's diet and mode of life an attack of appendicitis might be postponed or even prevented; and (2) when a local tumour having formed the progress of the disease might be arrested at a point short of the formation of pus. Suppuration having occurred, treatment must be entirely at the hands of the surgeon. In the first stage the diet should be largely of a liquid character but should also consist of vegetables and some beef extract. Milk should be rigidly excluded, as it tended to constipation with bulky or scybalous stools. In the second stage his experience was strongly in favour of treatment by perfect rest, small doses of opium frequently repeated, and the administration of copious enemata of soap-water and olive oil.—In reviewing the surgical treatment of acute inflammation of the vermiform appendix Mr. McAdam Eccles said that he considered that surgical interference was called for in all cases where there was suppuration, whether local or remote, in instances where there was general septic peritonitis, and in many cases between attacks, so that the offending organ might be removed. When an abscess in the right iliac fossa had to be dealt with he thought that two points needed emphasis: one that a very free exit for the pus should be secured and the other that nothing more than free drainage, as a rule, should be attempted. His belief was that most patients thus treated did well and had but little tendency to be again troubled with the appendix. He laid stress on the fact that he thought that it was not advisable to explore the area of suppuration until time had elapsed so that peritoneal adhesions, shutting off the general cavity of the peritoneum, might have formed. The pus did not usually tend to pass into the serous cavity and therefore too early operation was a mistake.

The Medical Guild, Manchester.—The annual meeting of the Medical Guild was held in the Victoria Hotel, Manchester, on Jan. 25th, the President, Alderman Walmsley, J.P., M.R.C.S. Eng., being in the chair.—The annual report of the council stated that continued progress had been made during the year and recounted various subjects of professional interest which had been dealt with, including hospital reform, club practice, provident dispensaries, the Midwives Bill and the Vaccination Bill, and the establishment of a quarterly journal for the promotion of the objects of the Guild. 46 members had joined, 15 had resigned (10 being due to removals to other districts), while three had died during the past year. Laudatory reference was made to the Wigan Guild of which practically every practitioner in the district was a member. The treasurer's statement showed a balance in hand of over £16. The annual report and statement of accounts were received and adopted on the motion of the chairman, seconded by Professor Dixon Mann and supported by Dr. Wahltuch and others. The following office-bearers were elected:—President, Alderman F. H. Walmsley. Honorary Vice Presidents: Dr. Henry Ashby, Dr. C. H. Braddon, J.P., Dr. Samuel Buckley, Mr. William Crosby, Dr. J. Dreschfeld, Dr. A. M. Edge, Dr. C. E. Glascott, Dr. Alfred Godson, Dr. James Hardie, Mr. Francis Hepworth, J.P., Mr. Thomas Jones, Dr. David Little, Dr. T. N. Orchard, Dr. D. Lloyd Roberts, F.R.S. Edin., Dr. Henry Simpson, Mr. F. A. Southam, Dr. Graham Steell, Mr. Walter Whitehead, F.R.S. Edin., Dr. S Woodcock, J.P., Mr. G. A. Wright, and Mr. A. H. Young Council: Chairman: Professor J. Dixon Mann. Vice-chairman: Mr. R. H. Wolstenholme. Honorary treasurer: Dr. C. G. L. Skinner. Honorary secretary: Dr. Alexander Stewart. Ordinary members of Council: Mr. Samuel Bagley, Dr. W. Bruce Bell, Dr. Isaac Blore, Mr. William G. Booth, Dr. Robert Forsyth, Dr. Alexander Fraser, Mr. C. R. O. Garrard, Dr. John H. Godson, Dr. N. C. Haring, Dr. Arnold W. W. Lea, Dr. J. W. Grange, Dr. Herbert Lund, Dr. J. Ratcliff-Gaylard, Mr. F. Leyland Roe, Mr. Alic Phillips, Dr. A. Brown Ritchie, Dr. J. Prince Stallard, Mr. G. A. Wright, Mr. A. I. Richards, and Dr. F. H. Worswick. Auditors: Mr. J. W. Wood and Dr. J. C. Nichol.

Folkestone Medical Society.—A clinical evening was held on Feb. 1st at the Victoria Hospital, the President, Dr. Tyson, being in the chair. Thirteen members were present.—A letter was read from Mr. E. D. Fitz-gerald thanking the society for its vote of condolence on the death of the late President, Dr. C. E. Fitz-gerald.—The President showed cases of Myeloid Sarcoma of the Superior Maxilla removed six months ago with no recurrence; Carcinoma of the Mamma operated on with subsequent Atrophy of an Enlarged Thyroid; Tabes Mesenterica with Pyloric Obstruction by Glands; Encysted Hydrocele of the Cord and Tuberculous Tarsus and Ranula.—Dr P. Lewis showed a girl, aged 16 years, who had had the Left Breast removed for Hypertrophy; also photographs of an Apparatus designed to Educate Patients to Breathe through the Nose after Operation for Adenoids; also photographs of Graves's Disease with Unilateral Exophthalmos and no Thyroid Enlargement but in which Tachycardia and Graefe's Sign were present; a case of Myxœdema before and after treatment; a specimen of Calcified Fibroid; samples of Sterilised Milk; a new form of Aspirating Syringe; also Skiagrams.—Dr. Cecil Latter showed a case of Congenital Heart Disease and also specimens of Carcinoma of the Stomach.—Mr. Barrett showed a patient with Advanced Epithelioma of the Lip, also a photograph of another similar case.—Dr. Eastes, Dr. Larking, and Mr. Linington showed Microscopical Specimens.

Neurological Society of London.—The annual meeting of this society was held on Feb. 2nd, when the newly-elected President, Dr. W. H. Gaskell, F.R.S., delivered an address on the Meaning of the Cranial Nerves, in which he gave an account of his researches into the morphology of the cranial nerves, especially in the scorpions and the ammonocœtes. There was a very large attendance of members and at the close a hearty vote of thanks was proposed by Professor Schäfer, seconded by Dr. Ferrier, and carried by acclamation. During the evening the ballot for the officers for 1899 was taken and the following were elected:—President: Dr. W. H. Gaskell, F.R.S. Vice-Presidents: Dr. Julius Dreschfeld and Dr. Augustus Waller, F.R.S. Council: Mr. C. A. Ballance, Mr. R. Marcus Gunn, Mr. Victor Horsley, F.R.S., Mr. J. N. Langley, F.R.S., Dr. C. Mercier, Dr. F. W. Mott, F.R.S., Dr. G. Vivian Poore, Sir Felix Semon, Dr. H. H. Tooth, and Dr. W. Hale White. Treasurer: Dr. Charles E. Beevor. Editor (*ex officio*): Dr. A. De Watteville. Secretaries: Dr. J. S. Risien Russell and Dr. W. S. Colman. Sir Samuel Wilks who was an original member of the society and was its second President was unanimously elected an honorary member. The next meeting of the society will be a clinical one and members intending to show cases are requested to communicate with one of the honorary secretaries as soon as possible.

Æsculapian Society of London.—A meeting of this society was held on Feb. 3rd, the President, Mr. D. H. Goodsall, being in the chair.—Dr. Arthur Davies showed a woman, aged 46 years, who was the subject of Myxœdema. The patient, who had been shown before the society previously to commencing the thyroid treatment, had now lost 6·5 kilogrammes in weight and had gained in brightness and well-being since taking thyroid 0·3 gramme daily for two months. Dr. Davies also exhibited a woman, aged 61 years, a subject of Myxœdema for 16 years, with the characters usually present.—The President showed a much-thickened and chronically inflamed Bladder of only 90 cubic centimetres capacity. The ureters were dilated and there was pus in the renal pelves resulting from a very tight urethral stricture in a man, aged 58 years.—Dr. B. G. Morison related a case of Abortion in a Multipara, aged 53 years, with Retention of the Decidua which was digitally removed. At its completion there was collapse with a pulse of from 120 to 130 per minute, not the result of profuse hæmorrhage. Two hours later the patient again became collapsed when a saline enema of about one litre was slowly given. The pulse improved quickly after commencing the enema and in two hours she had fairly recovered. She did well subsequently.

Reviews and Notices of Books.

Cerebral and Mental Symptoms in relation to Somatic Disease, Anæsthetics and Toxic Agents, Traumata and Surgical Procedures. By JAMES CHRISTIAN SIMPSON, M.B., C.M., M.D. Edin. London: John Bale, Sons, and Danielsson. Pp. 192. 1898. Price 5*s.*

THE subject matter of this book was presented as a thesis for the degree of M.D. of the University of Edinburgh in 1895. Dr. Simpson has done well in publishing it in book form. So much interesting matter is contained in its pages that it would have been a great loss if a greater means of publicity had not been secured for it than would have been possible if the thesis had met with the ordinary fate of such literary productions.

The book is divided into five parts. The first deals with the Cerebral and Mental Symptoms in relation to Somatic Diseases. The subjects brought under discussion offer a pleasant change from t[illegible] ordinary text-books. Each system of the body is dealt [illegible]ly. Thus we have a discussion of the mental sy[illegible]ted with disorders of the alimentary system, ne[illegible]atory system, then of the hæmopoietic system, an[illegible]r the last named we find the mental symptoms noted in Graves's disease, myxœdema, cretinism, &c. Some interesting cases are detailed under the various divisions.

Part II. deals with Toxic Insanity. After a general discussion of the clinical groups into which this condition may be divided the author draws attention to one notable symptom—viz., aphasia—which may be produced by a variety of toxic agents, especially the vegetable drugs belonging to the natural order atropaceæ. Attention is also directed to the toxic insanity which occasionally follows the inhalation of one or other anæsthetic agent when administered for therapeutic reasons. The effects of such drugs as opium, Indian hemp, sulphonal, cocaine, phosphorus, &c., also receive due notice. The sub-section of toxic insanity due to auto-intoxication is also well worthy of perusal. The importance of this form of poisoning has only recently been recognised in this relation, although, of course, the fact of reabsorption of toxic agents from the alimentary canal in particular has long been well known. Gastro-intestinal disturbance occupies a prominent place in this section and the importance of lavage of the stomach and aperients in cases of acute melancholia is insisted on.

In Part III. we find a description of Traumatic Insanity and the cases are divided into those in which there is actual cranial or cerebral lesion and those of a more general nature without actual gross cranial or cerebral injury. Dr. Simpson has evidently made a careful study of the literature of the subject and the various views of authorities such as Mickle, Lamartine, and many others are quoted and discussed.

Part IV. will be especially interesting to surgeons as it deals with the Surgical Relief of Cerebral and Mental Symptoms. The classification is similar to that adopted in Part I. The various systems of the body have been considered in turn, but some preliminary remarks are made on (1) the effect of an operation in an insane patient; (2) whether it is justifiable to operate on insane patients for diseases other than fatal ones; and (3) whether it is justifiable always to operate on an apparently sane patient with a bad hereditary history or an acquired neurosis in cases other than those of fatal disease. These questions open up large fields for differences of opinion and the author's criticism of the various views which have been put forward is marked with firmness and shows a full grasp of the subject. In this division also we find a consideration of the condition of microcephaly and its treatment.

In Part V. an account is given of those cases of Insanity or Mental Disorder which are apparently directly caused by Surgical Operations.

Taking the book as a whole we can cordially congratulate the author on his work which shows every evidence of a thorough and practical knowledge of the subject and we can recommend its perusal to our readers.

A Text-Book of Practical Therapeutics. By H. AMORY HARE, M.D., B.Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Seventh edition. Illustrated. London: Henry Kimpton. 1899. Pp. 731. Price 21*s.*

No greater evidence of a book proving successful could be found than the fact that a sixth edition—a large one—was exhausted in nine months. This has happened with the work now under consideration. Only a few months ago a review of the sixth edition appeared in our columns in which we described the general scope of the book and expressed the high opinion which we had formed of it. But few further words from us are therefore required.

The present edition has been enlarged, thoroughly revised, and brought up to date, and the text has been conformed to the British Pharmacopœia of June, 1898. It is consequently equally as useful to the English practitioner as to the American. One of the greatest advantages of the book is the ease with which any doubtful point can be referred to, thanks not only to a copious index but also to the manner in which each section is arranged. A number of illustrations designed to elucidate descriptions of technique or therapeutic results have been inserted. These are well executed and certainly add to the value of the work. We may repeat the words of our last notice: "We can thoroughly recommend this book to practitioners and students."

General Nursing. By EVA C. E. LÜCKES, Matron to the London Hospital. London: Kegan Paul, Trench, Trübner and Co. 1898. Pp. 351. Price 5*s.*

WE are told in the preface of this excellent manual that the bulk of the contents of this volume was first published in 1884, and that only slight alterations were made in subsequent editions. The instructions in nursing had hitherto appeared in the form of lectures, but the present volume has been entirely re-written and taken out of the lecture form. The result is one of the best books for nurses on their duties that we have yet met with. Written in admirable style, it gives directions which if all nurses would follow would greatly add to the well-being and comfort of the patients whom they are called upon to tend. Much useful advice is given and each page contains some valuable hint or fact. For instance, on the second page is a sentence which too often the nurse is apt to forget, thereby through pride or over-confidence in herself being frequently brought into unpleasant relationship with the medical man in attendance: "Trained nurses must scrupulously avoid anything which approaches to amateur doctoring, not only for their own sake but for the sake of the whole nursing profession. It prejudices all who come in contact with it against the education of nurses and is held in as much contempt by all really accomplished nurses as any other sort of quackery is by duly qualified practitioners." The arrangement of the book leaves little to be desired. By means of headings in black type at the borders of the letter-press reference to any particular point is greatly accelerated. The manual is most complete and any nurse will find it a very valuable addition to her nursing outfit

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LIBRARY TABLE.

Harry Ingleby, Surgeon. By FREDERIC J. WEBB. London: T. Fisher Unwin. 1899. Price 6*s.*—Mr. Webb gives no indication as to whether he is a medical man or not, but from the internal evidence of his vividly written book we think he must be. We should imagine him to be a young worker in the field of fiction, for the plot of his book—if, indeed, it can be said to have a plot—is crude and even common-place. The trials of a pair of young lovers, the dark, handsome and of course wicked man who intervenes, the seduced dressmaker, and the illegitimate baby are all well-known material and have been used *ad nauseam*. But let us turn from these pieces of padding to Mr. Webb's life-like scenes of general practice in a north country town and in the East-end of London. Here he is thoroughly at home and writes as one who has undergone the trials, worries, and, be it said, the amusement of a practice among the poor. Who of us has not seen this sort of thing? "How the people clustered, too, in the house of the dying, leaving the sufferer no air. The slatternly woman, often drink-stained, seemed to have nothing else to do but hover round saying in subdued tones 'God's good.' ...... On one occasion he held the door open to let thirteen out of one small room. As most had different remedies to propose no wonder the baby died. How essential was a beautiful funeral." Dr. O'Gorman's Irish patients, too, are delightful—the Southern Irish, we mean, that strange, lovable, illogical, contradictory people which combines, as perhaps none other does, the heroism of manhood with absolute childishness. Introductory addresses are still given at most of the hospitals and Mr. Webb produces an admirable specimen. The speaker, Dr. Campbell, does not make out, as is too often the custom, that the medical profession is a bed of roses. Not so; he says: "Your failures will be many, your disappointments heartrending ...... you must not look for rewards or riches or gratitude. ...... Reverence the dead, compassionate the living, be courteous to the poor." Mr. Webb has given us a series of life-like pictures of medical men and medical practice and we commend his book to all who are interested in either subject.

The Secret of Good Health and Long Life. By HAYDN BROWN, L.R.C.P., L.R.C.S. Edin. London: James Bowden. 1898. Second Edition.—This is a little book of some 150 pages but it contains a good deal of sound common-sense. The points to which the writer draws attention are just those which are most commonly neglected. Thus in the chapter on food he says: "Vegetarianism is a boon and a blessing to men because it helps to indicate to us the happy medium; it encourages a certain quantity of vegetables being consumed with other food that might not be taken otherwise." So, too, his remarks on beer are eminently sensible. Reason must have her say, he tells us, and because one man can drink a quantity of beer it does not follow that everyone can, neither because a person can keep well without alcoholic drinks does it follow that nobody else requires them. We can cordially recommend this unpretending little volume and if on the whole the advice given may seem to be a counsel of perfection there is all the more reason for trying to attain to such.

Manual of First Aid. By J. A. AUSTIN, M.D. Aberd. London: Sampson Low, Marston, and Co. 1898.—There is rather a plethora of manuals upon first aid. Fortunately they all say more or less the same thing—that is, as regards broad principles—otherwise the student of first aid might get bewildered with the multitude of counsellors. Dr. Austin's little book is well and interestingly written. In his opening chapters especially he gives various striking instances of the value of first aid given in the right and in the wrong way. The plan of the book follows the syllabus of the St. John Ambulance Association and is copiously illustrated with diagrammatic figures which are plain and simple and also accurate, except, we should say, Fig. 29, showing compression of the brachial artery. As given in the figure the fingers are simply lifting up the biceps. The description of how to compress the artery given in the text is, however, plain enough. Altogether the book is a good specimen of its class.

JOURNALS.

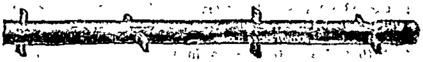
Blackwood's Magazine appears as a double number in honour of reaching its thousandth issue, an event which has been announced as unparalleled in periodical literature. A claim has since been put in for the *Gentleman's Magazine* as showing a longer continuous life. In this number of *Blackwood* the "*Noctes Ambrosianæ*" are revived and the third—or is it the fourth?—generation of *Maga's* contributors are well represented in its pages. Among the contents are stories by Mr. Joseph Conrad and Mr. Maurice Hewlett, the winners of the Academy's £50 prizes for the best books of last year.

Charing-cross Hospital and Medical School have decided not to be behind other large centres of medical education in the matter of being represented by an official organ. No. 1, vol. 1 (January, 1899), of the *Charing Cross Hospital Gazette* has just been issued and its 12 pages contain matter that is well selected and edited. The "School Notes" are merrily done. We bid our youthful contemporary welcome.

New Inventions.

NEW SELF-RETAINING DRAINAGE TUBING.

I DESIRE to bring to the notice of the profession a new form of drainage tubing, practically self-retaining, which I have found to answer admirably. It consists of ordinary drainage tubing of various sizes, perforated along its entire length at intervals of about three-quarters of an inch and between each perforation on either side of the tubes are studs or wings which, being of the same elastic material as the tube and cast together in one mould, offer but slight resistance during the process of introduction. As the drained tissues close around the tube these studs offer points of resistance which effectually prevent its slipping out. My suggestion has been very well carried out by Messrs. Arnold and Sons of West Smithfield.

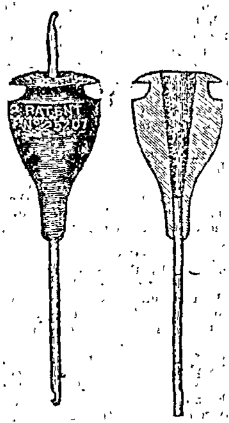


T. CARTER WIGG, M.D. Brux., M.R.C.S. Eng.

Oxford-terrace, Hyde-park, W.

VACCINE EXPELLER.

WE have received from Mr. J. H. Montague of 101, New Bond-street, W., an appliance which promises to be very useful to vaccinators. It is intended for the expulsion of lymph from capillary tubes without resorting to the time-honoured method of blowing it out with the breath and is made wholly of soft, red indiarubber without any attachments of glass or metal. The illustrations show it full size, both entire and in section. The tube of lymph with ends still sealed is first drawn midway through the larger opening as represented; the upper end is then broken off and the tube is drawn still further through until only about half an inch of it remains within the expeller. The other end of the tube containing the lymph is now broken off, and the expeller being held between the first and second fingers the lymph is instantly forced out by placing the thumb over the upper opening and compressing the indiarubber. The lymph may also in like manner be distributed as desired. If the tube does not pass with ease through the small end of the opening in the indiarubber it is only necessary to wet it a little.



FIRST REPORT OF THE ROYAL COMMISSIONERS ON THE METROPOLITAN WATER-SUPPLY.

(Concluded from p. 314.)

THE sixth section deals with the objects to be gained by connexion of the various systems of supply. The Commissioners point out that intercommunication to be of use must necessarily imply that there will be an amount of water available for transfer through the connexions made. Intercommunication would necessarily be useless in the case of a company which was not in the effective possession of a supply of water larger than it required to meet the maximum daily demand of its own customers. The effective possession of such a supply implies that a company has a [illegible] the water and the necessary [illegible] -tment and pumping of the [illegible] is the duty of every company to provide against any contingencies which may arise and they give it as their opinion that each company therefore ought to be in effective possession of a surplus supply. With regard to the possession of a surplus supply the Commissioners state that it should as far as practicable be insured by a proper system of control. Should a general scheme of intercommunication be carried out it should be arranged that in the case of any accident happening, or if as a result of miscalculation on the part of any company as to their resources the result was that they found themselves in want of water, then the defaulting company would be able to obtain the necessary assistance. But after such a proof of incapacity the defaulting company should be made to extend its own works without delay and to remedy defects which had made themselves apparent. By this means the ability on the part of other companies to give temporary assistance would save the population from any interference with the continuity of their water-supply. The Commissioners point out that the engineers of the companies distinguish between major and *minor emergencies. A minor emergency might arise from* a fracture of the mains, from accidents to the machinery, or from great loss of water due to its use for fire extinction. The characteristics of these minor emergencies are that they are usually strictly localised and of short duration, so that the ter[illegible]orary assistance which would be required could be given by a simple connexion of the mains of one company with [illegible] its next neighbour. The major [illegible] arise from failure of [illegible] the sources of supply in the rivers, storage reservoirs, or wells. An illustration of a major emergency was given in the [illegible] of the East London Company during last year. Su[illegible] required the assistance of a large quantity of [illegible] period extending over many weeks and such an[illegible] could only be provided against by laying down [illegible] for the conveyance of water. The Commis[illegible]sioners point out that the schemes of intercommunication [illegible] submitted to them and the principles on which they were drawn up were sound in the case of companies working [illegible] as separate organisations, each of which was under statutory obligations, and they [illegible] that should the various undertakings be amalgamated [illegible] by one authority such intercommunication [illegible] in continuous use.

[illegible] contains observations on the schemes [illegible] submitted by the associated com[illegible] [illegible] observe that the schemes sub[illegible] illustrate the fact that it is practicable to [illegible] whole of the different systems of supply now [illegible] by the eight metropolitan water companies, [illegible] ations and combinations which might be formed for [illegible] these systems are almost infinite in number, and [illegible] changes must take place as the systems extend. With regard to the Battersea scheme it is pointed out that the filter[illegible] of the Southwark and Vauxhall Company should "in no case be permanently continued," as the surroundings render the site unsuitable for such a purpose. The Commissioners state that all the schemes submitted to them appear to be feasible and that either would be a good insurance against failures if each company had effective possession of a surplus supply of water to transfer and if the statutory restrictions on intersale of water were abolished or suspended.

The eighth section is devoted to a consideration of the cost of the intercommunication scheme and to the legal powers which it would be necessary to obtain for carrying it into effect. The Commissioners point out that the East London were the only company in default during last summer and that the subject of intercommunication became one of urgency in consequence of that default. They consider that the companies take "a wide and sound view" of their obligations in viewing the intercommunication system as one of joint benefit to all. They commend the resolutions of the companies as set forth at the commencement of the report. In the opinion of the Commissioners the cost of connecting the different systems should be defrayed by money raised by issuing debenture stock from time to time. The Commissioners agree with the suggestion that whilst the works *of intercommunication are not* used the total amount of debenture stock issued by any of the companies should be treated as a common fund and that the companies should contribute to the payment of interest in proportion to their water rentals. If the works of *intercommunication* are used the company receiving water should pay an amount in such proportions of the interest on their debenture stock as may be agreed upon by the companies or in case of disagreement by some sum to be fixed by an arbitrator. A company receiving water should also pay at a price to be agreed upon or to be fixed by the companies or should they not agree by the President of the Local Government Board on the application of any one company. The Commissioners report that in their opinion the debenture stock raised might properly be exempt from the obligations of a sinking fund clause. The Commissioners point out that the London County Council had opposed any intercommunication scheme on the ground that it might increase the value of the undertaking, but they give it as their opinion that an arbitrator would not consider that the values were increased by intercommunication and they observe "that no company should be allowed in the event of purchase to enhance the value of its undertaking by means of an intercommunication scheme." The scheme is intended, they point out, to keep up a full supply for which a company receives payment in water-rents and to protect water consumers from inconveniences which may be due to an accident or more frequently *to default of some company* in making due provision to carry out its supply. The Commissioners say that further consideration is required to determine exactly what works it would be best to undertake to ensure efficient intercommunication. It would not, they believe, be expedient to lay down a complete scheme in a Bill and they recommend in preference that elastic clauses should be framed so that the companies may execute from time to time any works which may be authorised by some public department such as the Local Government Board. To guard against possible dilatoriness on the part of any company the Bill should contain a provision to ensure that any works authorised or [illegible]ected by the Local Government Board should be im[illegible]tely carried out. The Commissioners are of opinion [illegible] the case of intercommunication being established [illegible] companies it would be better for the work to be carri[illegible]ltogether by one of them and that therefore it would [illegible]ll to empower companies to execute works within and outside their statutory limits of supply. The Commissioners give a list of Acts which at present are or may be statutory impediments to an efficient system of intercommunication. These are:

1. The Staines Reservoirs Act, 1896, which prohibits sale of water impounded in those reservoirs.

2. The Southwark and Vauxhall Company's Act, 1898, which prohibits the sale of water abstracted from the Thames under the provisions of that Act.

3. The Thames Conservancy Act, 1894 (Section 295). A somewhat complicated question of law arises out of this Act and on the true solution of the points raised the Commissioners refrain from expressing an opinion.

The Commissioners state *that* it has also been suggested that the powers of the companies under the Waterworks Clauses Act or under the private Acts which they at present possess are sufficient to authorise them to take up streets and do other works which may be necessary for the purpose of *carrying* out the scheme.

With regard to the question of further abstraction of water from the Thames the Commissioners report that the suggestion that the Local Government Board should have power in the case of emergency to authorise an additional draught on the Thames is one which would be likely to meet with opposition. They point out that the time at which the Local Government Board would be asked to use its power of dispensing with the statutory obligations of the companies would be at times when the Thames was low and when any further depletion of the river would be objected to. The Commissioners suggest that it would be better to extend to all the companies the principle contained in the Staines Reservoirs Act and *to* allow them to draw a varying amount of water from day to day provided that the quantity drawn per day on an average of six months does not exceed the authorised amount; they see no good reason why the companies should be bound to a fixed maximum quantity in every 24 hours and they suggest that the reservoirs might be rapidly filled at times when the river is full. In conclusion the Commissioners point out that the recommendations in the report are entirely independent of the matters contained in the other two references which have been submitted to them and that their suggestions in no way prejudice the question of control to be exercised by local or other authorities or the question of purchase of the companies' undertakings by one or more authorities.

THE LANCET.

LONDON SATURDAY, FEBRUARY 11, 1899

THOUGH it is somewhat premature to speak of the General Medical Council having drafted a Bill for the amendment of the Medical Acts it is a fact that on one or two points affecting the disciplinary powers of the Council a practical unanimity seems, or rather seemed, to have been reached by that body when in May last it was resolved on the motion of Mr BRYANT seconded by Dr MACALISTER —

> That the President be requested to communicate with the Lord President of the Privy Council as to the practicability of obtaining such an amendment of the law as will more effectually prevent the holder of a medical diploma or degree from using the title thereof after his name has been erased from the Medical Register under Section 29 of the Medical Act, 1858, and for so long as the erasure continues in force

This is the fundamental action of the Council in the matter It is due to the President to say that he has been diligent in the promotion of the movement in the way of communications with the Privy Council and with the qualifying bodies At first he did not meet with much encouragement He received from Sir C LENNOX PEEL an intimation that the Lord President could not hold out any hope of legislation being undertaken to effect amendment of one provision alone of the Act even if the degree giving bodies had expressed a desire for the amendment, which did not appear to be the case Nothing daunted, the President at the instigation of the Executive Committee undertook further correspondence with the Privy Council and fortified himself with two clauses calculated to facilitate the discussion of the amendment, as to the necessity for which there seemed a practical unanimity in the Council The clauses were drafted at the President's request by Mr MUIR MACKENZIE and are as follows We quote from the minutes of the Executive Committee dated Nov 26th 1898

1 Where a registered medical practitioner has been convicted in England or Ireland of any felony or misdemeanour, or in Scotland of any crime or offence or has after due inquiry been judged by the General Medical Council to have been guilty of infamous conduct in a professional respect, the General Medical Council may if they see fit by order, to be made either at the inquiry or at any subsequent time direct that the name of such medical practitioner shall be and remain erased from the Medical Register for a limited period to be specified in the order, and may from time to time by subsequent order or orders vary such period, and at the expiration of the period specified in any such order or subsequent order the Registrar shall unless otherwise ordered by the General Medical Council, restore the name of the practitioner to the Medical Register

2 Where the name of a registered medical practitioner has been erased from the Medical Register by order of the General Medical Council for any of the causes specified in Section 29 of the Medical Act 1858 such practitioner shall for as long as his name remains erased from the Medical Register be deemed to be deprived of every diploma or degree conferring a qualification to practise medicine surgery, or midwifery possessed by him Any practitioner who in contravention of this section shall use the name title, or description of any diploma or degree of which he is by this section deemed to be deprived shall be guilty of an offence under Section 40 of the Medical Act, 1858 and all provisions of the said Act in relation to offences under the said section shall apply accordingly

It will be seen that the object of the above clauses is twofold—first, to give clear power to the General Medical Council to erase the name of an offending practitioner for a limited period and at the expiration of that time to restore the name, and, secondly, to provide that while such period lasts the said practitioner shall be virtually deprived of all titles and qualifications entitling him after registration to practise, so that any such practitioner who does practise in contravention of this provision will be guilty of an offence under Section 40 of the Medical Act The clauses meet two great defects in the existing powers of some of the qualifying bodies—the inability to withdraw in the case of an offending practitioner the titles and qualifications which they have given, and the want of power to restore the same when the period of punishment has passed It is notorious that in some of the most serious instances of crime or professional offence the offender still retains his title and, if he is not in prison continues to practise on the strength of it On the other hand, it is equally well known that many of the offences for which men are removed from the Register are of such a nature as not to call for the erasure of their names for more than a limited period but many licensing bodies have not the power to restore their names Unless these defects can be remedied either names which should be removed will be permitted to remain on the Register or gross injustice will be done by inflicting a permanent disqualification when only a temporary one is called for

It will be seen by our report[1] of the proceedings of the Royal College of Physicians of London that this body objects to the second clause Even if it has already ample powers of discipline in its own hands, we do not see why the College should object to a general clause giving uniformity to the law of punishment We cannot but hope that further consideration will induce that corporation to fall in with the general demand that all licensing bodies should be brought into coördination with each other through the General Medical Council for the public weal and for the measured and uniform punishment of offences against the public good The universities were supposed to be the only obstacle in the way of such legislation They have taken a public spirited view of the question, and we hope that the Royal College of Physicians of London will upon reflection withdraw its objection Without unanimity it is hopeless to go to the Privy Council or to Parliament With unanimity it seems probable that this great anomaly may be effectually stopped As we understand the matter, however, this question is so far only in the preliminary stage The General Medical Council has not yet had a chance of hearing the results of the inquiry by the President as to the attitude and feeling of the qualifying bodies towards these two clauses. Still less has it had the opportunity of expressing itself as to the necessity for the amendment of other parts of the Medical Acts which in the judgment of many greatly need alteration. Possibly when this question of the amendment of the Medical Acts comes before the General Medical Council other questions will be raised, so that the objection of the Lord President to deal with the amendment of one provision alone will no longer have force. It will be something gained, however, if unanimity can be secured with respect to these two clauses which seem to make no unreasonable demand on the qualifying bodies.

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[1] THE LANCET Feb 4th 1899, p 335

A RECENT report drawn up by the medical officer of health to the London County Council—Mr. SHIRLEY MURPHY—effectually sums up the case both for public control in regard to supply of milk and for the abolition of private slaughter-houses In this commendably short but pregnant report Mr. SHIRLEY MURPHY expounds the position under both heads in such decisive terms as should leave little doubt as to the proper steps which should be instantly taken for the elimination of a double reproach on this branch of our sanitary administration. The report deals first with the statements of the deputations which attended before the Public Health Committee of the London County Council on Nov. 3rd, 1898, on the question of the proposed abolition of private slaughter-houses in London and with the representations subsequently made to the committee on the subject. It was drawn up in consequence of an instruction given by the chairman of this committee. The views of Royal Commissions on the subject of private slaughter-houses and the ills that may arise out of them are well known, clear, and decisive, and the question remains for consideration as to how to give effect in London to the recommendations enjoined. In regard to milk Mr. SHIRLEY MURPHY points out that the following administration is necessary. The owners of cows in London will be required to notify to the Council every case of disease of the udder. As is well known the latest Royal Commission stated that according to their experience the conditions required for ensuring to the milk of tuberculous cows the ability to produce tuberculosis in the consumers of such milk is tuberculous disease of the cow affecting the udder. The Council will employ a veterinary inspector to examine all cows with diseased udders and determine the nature of the disease; and if this be found to be tuberculous the cows will be slaughtered. Periodical inspection of cows in cowsheds will be needed with a view to enforcing the requirement of notification, for the Council will require the slaughter of all cows affected with tuberculosis of the udder or exhibiting clinical symptoms of tuberculosis. If, when the animal is slaughtered, it is found that an error in diagnosis has been made the Council will compensate the owner of the cow. Further, samples of milk sold in London will be taken and milk vendors will be required to supply sufficient information as to the sources from which the milk is derived. If such milk is found to be tuberculous the Council will require from a local authority in whose district the cows are situated "full information and veterinary reports concerning the cows, byres, &c.," and if dissatisfied with the report will, with the sanction of the Local Government Board, make an independent inspection of the cows. Obviously the Council will require the aid of a laboratory specially set apart for this purpose. The recommendations of the Public Health Committee concerning milk-supply have not met with opposition and it is to be hoped therefore that the clauses each and all will soon be adopted in order that the sale of tuberculous milk may be limited if not altogether stopped. One small omission we notice. We do not find any reference to the milk imported from Holland and elsewhere into this country. We believe that the importation of frozen milk is rapidly growing and clearly this milk should not be left beyond the pale of administrative control.

In regard to inspection of meat, there were several dissentient views expressed by members of the deputations who addressed the committee and directed in the main to the question of the abolition of private slaughter-houses. Some said that this abolition would "practically destroy the purchase of English farmers' cattle," for "the only customer practically so far as London is concerned is the man who has a private slaughter-house of his own." Others said that the metropolitan cattle market of the City Corporation "might almost as well shut its gates"; butchers "would neither take the trouble nor would they go to the extraordinary expense and inconvenience of sending their servants to a public slaughter-house in order that they might slaughter the animals which have been bought." As a matter of fact where the system of control suggested has been tried, as on the continent, it has been found to be, as the result of a number of years of experience, not only a valuable protection to the public but acceptable to all honest butchers. Moreover, the members of the Royal Commission on Tuberculosis who visited Germany reported that "all the public slaughter-houses in Germany are self-supporting" and there is no reason why this should not be so in London or in every city and town. In elucidation doubtless of this view, Mr. SHIRLEY MURPHY's report is accompanied by a communication from the architect of the London County Council upon the public slaughter-houses in continental cities visited by him. Mr. SHIRLEY MURPHY deals ably with the various objections raised by the sanitary authorities in London who have communicated their view on the subject to the Public Health Committee. These objections bear chiefly on the question of cost.

In reviewing the whole subject it is perfectly clear that the objections raised to a systematic inspection and control of our meat-supply and milk-supply dwindle into the merest insignificance compared with the infinitely broader, and more important question of the preservation of the health of the community. The action of the Legislature is therefore most urgently and promptly needed in this matter. As Sir RICHARD THORNE in his excellent Harben Lectures has ably said, "The properly administered public slaughter-house is demanded as an act of justice to those trading in meat; it is demanded in the interests of public health and decency; it is demanded for the prevention of cruelty to the lower animals; and it is demanded in order to bring England, if not the United Kingdom, somewhat nearer to the level of other civilised nations in this matter." To which sentiment we have nothing to add.

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WE publish to-day the third and concluding part of our summary of the first report of the Royal Commission on the Metropolitan Water-supply. We must congratulate the Royal Commissioners on the promptitude with which they have dealt with the evidence which has been given to them on the subject of the intercommunication of the water companies' mains, a subject which forms one complete division of the reference which was entrusted to them. The report given by the Commissioners on this point is to the effect that a well-considered scheme of intercommunication is not only useful but necessary in the interests of the water consumers, and in making their report the Commissioners are careful to point out that the carrying into effect of such a scheme will not prejudice in any way the question of the advisability of the purchase of the water companies' undertakings, or the question as to whether it is advisable that the water companies should be placed under more stringent control. The advisability of an increased number of intercommunications between the companies' mains has been rendered urgent by the failure of the supply of the East London Waterworks Company during last summer. We have already insisted that everything possible should be done to ensure an adequate supply of water for East London next summer and we have pointed out that it is highly desirable that some temporary provision to make good the deficiencies of the supply of the East London Company should immediately be made. We are glad to see that the recommendations of the Commissioners are fully in accord with what we have already advised on this subject. The Commissioners do not commit themselves to the details of any of the schemes of intercommunication which have been brought before them, but they emphasise the fact to which we have already called attention that the present Battersea station of the Southwark and Vauxhall Company ought not to be used for a longer period than is absolutely necessary. The proposals of the associated metropolitan water companies with regard to intercommunication which were laid before the Commissioners and which we have already published *in extenso* have been embodied in a Bill of which we give a summary in our present issue (v. p 396). After the recommendation of the Royal Commission that some system of intercommunication ought to be immediately adopted so that the East London Company may be enabled to give a constant supply during the present year there can be no doubt that Parliament will promptly deal with the question and that an Act will be speedily passed to effect this purpose. Some of the provisions of the Metropolitan Water Companies Bill need careful consideration and some, in our opinion, should in the public interest be considerably modified before the measure is allowed to pass into law. We must, however, for the present content ourselves by congratulating the people of East London on the probability that they will this year be free from the inconvenience and suffering to which they have recently been subjected by the failure of the East London Waterworks Company to give them an adequate supply.

Annotations.

"Ne quid nimis."

THE QUEEN'S SPEECH.

IT is impossible to peruse the Queen's Speech without being struck by the great and growing importance of disease prevention and of the conservation of the physical well-being of the people as matters of legislative and administrative concern. The Upper House is told by Her Majesty of the unremitting efforts which are being made to prevent the extension of plague in the Indian Empire and to provide relief for its victims. The measures taken to deal with the distress in the West Indies consequent on the great hurricane form the subject of another paragraph. The Commons are told that the water-supply of the metropolis is to engage attention, that the Factory Acts are to be amended, that further legislation to prevent the adulteration of food is to be undertaken, and that local authorities are to receive additional powers with regard to the housing of the working classes It can hardly be denied that the beneficent educative influence of the medical profession on public sentiment and opinion has been one of the causes to which is due the fact that such legislative proposals as these bulk largely in Parliaments at the present day. As practitioners of the healing art medical men are continually engaged in battling with existing disease. Both individually and in various corporate capacities they are at the same time doing their utmost to remove the causes of diseases, and many Acts of Parliament and many organisations for the promotion of social welfare owe their origin and the principles which inspire them, to medical initiative and advocacy. While, however, the Queen's Speech contains much that is excellent in purpose, a large part of which we were able to forecast last week, its most remarkable feature from a medical point of view is its absolute silence on one question which at the present time is most needful of legislation, is ripe for legislation, and has been the subject of what amounts almost to Ministerial promise of legislation. Needless to say, we speak here of revaccination. Whatever be the faults of the conscience clause—and as it stands in the statute book and is being administered in the country they are numerous enough and manifest enough—it at least has the great compensating advantage that it opens wide the door by which a large and statesmanlike measure of revaccination may be introduced. Indeed, no conscience clause should ever have been proposed or passed without the accompaniment of a revaccination clause But the Government's policy in vaccination matters appeared to be guided by no principle, and it was only when a second reverse threatened them in the House of Lords that at the last moment they succeeded in obtaining the invaluable support of Lord Lister, and through him of a majority of the Lords present, by means of statements which could not be looked on as very far short of pledges regarding legislation for revaccination to be considered in the recess and to be introduced when Parliament should again meet. As the most distinguished member of the medical profession in Parliament, as the member who, having first satisfied himself of the intentions of the Government on this subject, thereupon publicly stated that he was satisfied and so saved the Government from defeat, it is impossible for Lord Lister to allow the matter to be passed over and we are convinced that he has no intention of permitting it so to rest. No man knows better than the Chairman of the Jenner Institute the great and immediate need that exists for the protection of the adolescents and that need has been intensified by the very Act which he succeeded in getting his colleagues in the House of Lords to accept even after the Prime Minister had failed. Some strong man, if Lord Lister does not come forward, must make it his business to see that the Government, for their own credit and above all for the public welfare, make no undue delay in fulfilling not merely the letter but the spirit of their expressed intention, and introduce, not at the fag-end of the session but in ample time for its safe passage through Parliament, a measure which shall at least place revaccination on the same footing with primary vaccination as regards statutory requirement and provision for its performance. Independently of any pressure by the medical profession or by the better educated of the general public the mere self-respect of the Government requires that they shall introduce and pass such a Bill, and it is surely out of the question to suppose that they can have any other purpose. In the general interests of public business it is important, however, that an immediate announcement should be made on the subject and we regret that such an announcement has been omitted from the Queen's Speech.

THE REGULATION OF STREET TRAFFIC.

WE are proverbially slow to move in administrative affairs in this country and especially in London, so that when at last steps are taken the movement appears drastic. The recent police order prohibiting the "crawling" of cabs along certain of our thoroughfares is a case in point. The order has brought both convenience and inconvenience to the travelling public. There is less impediment to the great omnibus traffic, but there are much fewer chances of engaging a cab at any point. Indeed, during the past week persons have had literally to "hunt" for a cab or to walk to the nearest rank. Whether this regulation is a hardship to "cabby" or not is a question with which we have little to do. It is to be hoped, however, that other regulations will be extended to omnibuses with a view to improving the services and we should like to see the equipments of this vehicle improved also. It is a notorious fact that there are too many omnibuses on the London roads. The omnibus may be stopped with few exceptions at almost any given point which inevitably leads to a congestion of traffic only equalled by the "crawling" cab. We have on a previous occasion urged that the omnibuses should have recognised calling stations and that they should be forbidden to stop for the purpose of picking up pedestrians at any point other than a recognised or official stopping place. We are surprised that the omnibus companies do not themselves adopt this plan, since considerable wear and tear (especially as regards the horses) would be saved while the service would be materially accelerated. Further, by such a system the chances of accidents arising from the omnibus failing to stop on passengers leaving or entering the vehicle or of the horses starting at a critical moment would be reduced to *nil*. This we should have thought would have appealed to the companies purely on the score of avoiding compensation claimed for injuries arising through such circumstances. It is quite certain that our street traffic can be improved under stricter police regulations. The number of omnibuses running to and fro should be reduced or else the greater number of them should be compelled to avoid the congested thoroughfares. For example, the omnibuses going west and east might be made to take the Thames Embankment as a clear and "through" route to and from the City. We are sure that it would pay the companies to run some of their vehicles by way of the Embankment from the City to Charing-cross. A large proportion of the passengers getting into an omnibus at Charing-cross going eastwards require to go the whole way to Liverpool-street, and *vice versâ*. The omnibus itself needs considerable improvement. There is not comfortable room for 12 persons inside. The lighting is often inadequate and absolutely precludes reading. The outside of an omnibus is so much lost carrying space in wet weather. Cannot this be obviated? Even when the rain ceases the accommodation provided is not only uncomfortable but dangerous. There can be little doubt that the aprons which have been well soaked in a shower of rain are responsible for many a chill with serious sequelæ. Now that our police authorities seem to be seriously taking steps for the better regulation of vehicular traffic it is to be hoped that improvements will be commenced all round. They are certainly needed, but all kinds of vehicles contribute towards blocking the way and the regulations therefore should be made to apply uniformly.

ROYAL COLLEGE OF PHYSICIANS OF LONDON: THE WEBER-PARKES PRIZE.

WE would call the attention of our readers to the fact that the second award of the Weber-Parkes prize and medals (to be awarded triennially to the writer of the best essay upon some subject connected with the etiology, prevention, pathology, or treatment of tuberculosis, especially with reference to pulmonary consumption in man) will be made in 1900. The adjudicators have selected as the subject of the essay for that occasion—"The Ætiology of Human Tuberculosis and the Assistance which a Knowledge of the Ætiology may render to the Task of Prevention." The essay must be based on the original work and observations (experimental or other) of the author and must include a detailed exposition of the methods employed and their mode of application. The value of the prize is 150 guineas and a silver medal. A similar medal, distinguished as the second medal, will be awarded to the essayist who comes next in order of merit. The award will be made on some day previously to Oct. 18th (St. Luke's Day), 1900.

MOSQUITOES AND MALARIA.

IN THE LANCET of Nov. 12th, 1898 (p. 1300) our Rome correspondent mentioned that Dr. Amico Bignami, *privat-docent* in pathological anatomy in the University of Rome, working in concert with Dr. Dionisi, also of Rome, experimented in 1896 on the possibility of engendering malarial fever by means of the punctures of mosquitoes. Our correspondent returned to the subject in THE LANCET of the following week (Nov. 19th, p. 1371), *adding that it had been* alleged that Dr. Bignami's mosquito hypothesis dated as far back as 1894 and furthermore giving an outline of a controversy as to priority of discovery which had arisen between Dr. Bignami and Dr. G. B. Grassi, ordinary professor of comparative anatomy in the University of Rome. In the first of these two letters our correspondent wrote that Dr. Grassi "succeeded last summer in completing a series of observations by which he ascertained and determined the mosquito tribes which had power to convey the disease." It appears, however, that the mosquito theory of malarial fever was not then by any means broached for the first time, for we have now before us a portion of the printed proceedings of the Philosophical Society of Washington, D.C., United States of America, showing that on Feb. 10th, 1883, Dr. A. F. A. King read a paper entitled "The Prevention of Malarial Diseases, illustrating *inter alia* the Conservative Function of Ague." After enumerating 20 theories or maxims relative to the genesis of malarial fever the abstract of Dr. King's paper proceeds as follows: "These generally admitted facts were insusceptible of scientific explanation by the marsh fever hypothesis of Lanscisci (*sic*), but were capable of explanation by the theory that marsh fevers are produced by the bites of proboscidian insects, notably in this and in some other countries by mosquito bites A review of the natural history, habits and geographical distribution of the mosquito was next presented in explanation of the 20 statements above quoted In discussing statement 15 [i e, that of all human races the white is most sensitive to marsh fevers, the black least so] it was maintained that the comparative immunity of the black races was largely due to color, the dark complexion of the skin being another illustrative instance of 'protective coloring' so often observed in other animals and by which, in this instance the negro was protected from the *sight* and consequently *from the bite of the mosquito*, a similar protection being further secured by the offensive odor and greasiness of his cutaneous secretions In further support of the mosquital origin of malarial fevers numerous noted medical authorities were cited, showing that in all parts of the world where these diseases prevail immunity was secured by protecting the body from mosquito bites The geographical distribution and seasonal evolution of mosquitoes and other proboscidian insects were shown partially to agree with the times and places in which malarial diseases prevail though from lack of information conclusive evidence on this point was yet wanting The abstract concludes with suggestions for the prophylaxis of malarial disease by personal protection from all winged insects especially during evening and night by gauze curtains veils, &c, and by inunction of the body with terebinthinated, camphorated, or eucalyptalised ointment or liniment

THE WORKMEN S COMPENSATION ACT.

THIS much abused—almost universally abused—Act has now been in operation for upwards of six months, and so far as its administration in the neighbourhood of Newcastle is concerned it must be a great disappointment to its framers We were told that the Act would diminish litigation, but so far the exact opposite has been the result Every day cases are reported in the newspapers as settled in court on the old lines An action is brought in the county court the usual contradictory evidence is given, and the case is adjudicated upon as it would have been had no such Act been passed, with the result that should the masters lose or win they are saddled with considerable legal expenses The services of the official referees are not called into requisition and so far as that principle is concerned the Act seems to be a dead letter The number of accidents has very much increased to the manifest advantage of the lawyers and those members of the medical profession appointed by the masters, the men, and the insurance companies to look after their interests The men seem hardly more satisfied with the Act than the masters, and as time goes on this piece of legislation and similar legislation which it is said is sure to follow must have the effect of still further separating the men from the masters The effect will be far reaching and nowhere is it likely to be more felt than by the medical charities Subscriptions to these organisations from the employers are already being diminished and are likely to cease altogether The so called workman who is only allowed to work for eight hours a day will have to support the hospitals and dispensaries himself—which indeed, he is well able to do Not only so, but the aged and in any way damaged man whether from physical infirmity or moral propensity, will inevitably cease to be employed The trades unions will not allow a man to work for less than the wage which a strong man can earn, and this again will throw more men out of employment for the masters will be only too ready to dispense with their services It remains to be seen how the great mutual societies such as the Northumberland and Durham Miners' Permanent Relief Fund, will be affected At present both men and masters contribute to this really splendid fund for the relief of those accidentally hurt and for aged members It is more than likely that the masters' contributions will be withdrawn If so the society will cease to support members injured by accident and will provide old age pensions only for the members It is certain that some means will have to be devised other than the Poor law for the advantage of men deprived of work under the Workmen s Compensation Act—men who but for such legislation would have continued at work for some years

THE WEATHER IN 1898

THE exceptional warmth and drought of 1898 are well brought out by a series of observations taken at Sevenoaks by Mr W W Wagstaffe, F R C S Eng The differences between the maximum temperatures for each month and the corresponding figures obtained from 10 years' observations at Sevenoaks were as follows —January, 7° higher; February, 4° higher, March 2° lower, April, 1° higher, May, 5° lower, June, 4° lower, July, 1° higher, August, 2° higher, September, 8° higher, October 5° higher; November, 2° higher, and December, 7° higher The actual maxima for each month were as follows —January 54° on the 30th February 55° on the 1st March 60° on the 18th April 64° on the 8th May 73° on the 22nd and 23rd June 75° on the 18th, July 80° on the 15th and 16th August 85° on the 14th and 22nd September 88° on the 8th October 64° on the 2nd and 3rd November 58° on the 10th, and December 55° on the 4th The average maximum for September was 71°, being the highest average for any month of the year, The rainfall for the year was 20 65 inches being 11 41 inches less than the average of 10 years at Sevenoaks The rainfall was below the average in every month of the year except May

MIDWIVES AS ILLEGAL PRACTITIONERS IN NEW YORK

THE *Medical Record of New York* has recently published an instructive article on the midwives question in that city by Mr Eldridge T Gerry, President of the New York Society for the Prevention of Cruelty to Children Previously to 50 years ago the midwife in the United States was practically a monthly nurse working with the regular medical man in charge of the case The influx of foreigners since then has introduced the midwife in all the forms and with all the prejudices of the particular country from which the foreigner has come The article shows that the development of the midwife has been disastrous to children and often to women who have been admitted into homes and hospitals enjoying a sort of protection under articles of incorporation under the Hospitals Acts The incorporators are usually the immediate relatives and friends of the midwife and persons of no *locus standi* perhaps living in other States In such homes pregnant women are treated Abortion is often procured The children are neglected Sometimes they are left in the street, sometimes they are "adopted,' and in the latter case blackmailing operations are often tried on respectable people who have ' adopted them and perhaps come to be attached to them The midwife in charge of such a home assumes the title of doctress and offers to "treat female diseases" "irregularities guarantees success in every case, undertakes confinements, &c, &c This evil has grown to such an extent that legislation has been procured requiring the certificate of the State Board of Charities to approve the organisation and incorporation of such institutions and authorising the Board to apply to the Supreme Court for the cancellation of a certificate of incorporation of institutes not having the approval of the State Board. Unfortunately, the State Board does not seem to have been very active in the use of its powers. In 1893 the Society for the Prevention of Cruelty to Children took action and secured the conviction of several notorious keepers of so-called "lying-in asylums" who advertised ostensibly for that purpose in the daily papers, but whose places were used for the purpose of criminal abortion. One typical instance is given in which Magistrate Pool expressed a strong opinion that the managers of the corporation were mostly relatives of the defendant; that the defendant was not lawfully authorised to practise medicine, but called herself a doctress and conveyed to unsuspecting persons that she was a legal practitioner of medicine, &c. The writer of the article points out that the case has not yet been disposed of in the trial court. Meantime the evil is great. One of the difficulties, the writer of the article suggests, is that there is no registration of midwives by competent authority and that no physician attends the home. He thinks "the remedy is very simple' and it consists of a Bill requiring the registration of midwives, making it penal for a woman to practise without registration, and placing the control of the matter and of the midwives in the hands of the local county medical society, with power to remove from the list those who violate the provisions of the Bill. In addition there should be a proviso forbidding any incorporation of such midwives with other persons for any purpose incidental to, or connected with, their business. It is interesting to notice that in New York as in Chicago this kind of legislation is almost forced on the legislature by the scandals of untrained and uncontrolled midwives.

INDIAN AND COLONIAL STUDENTS IN EDINBURGH.

ON Jan. 27th a meeting was held in Edinburgh to consider the question of providing a residence or residences for the Indian and colonial students attending the University. The circular calling the meeting had been signed by Professor Crum Brown and Professor Prothero. At the meeting the chair was occupied by Sir William Muir, and among those present were: Professor Sir William Turner, Professor Sir Thomas Grainger Stewart, Professor Rutherford, Professor Crum Brown, Professor Seth, Professor Wallace, Professor Prothero, Professor Kirkpatrick, Professor Geddes, and Sir T. Batty Tuke. A report was given of what had been done in London towards promoting the educational federation of the Empire. From the statistics it was shown that last year there were in all 227 Indian and colonial students in attendance at the classes of the University, exclusive of those who were attending extra-mural classes and other teaching institutions. There was probably more Cape-Dutch spoken in the University than Gaelic. The number of colonial students had, however, been rather on the decrease during recent years, this being due partly to the improvement of University teaching at Cambridge and other English medical schools, partly to the increase of residential facilities at other universities, and partly also to the fact that English universities had strengthened their ties with colonial universities by recognition of a two-years' study towards graduation and by other points in connexion with scholarships, &c. Recently one of the colonies had enacted that its students holding scholarships should only attend residential universities, and residential facilities would probably soon be established in connexion with the re-organised University of London. The Australian Club and the South African Union, though useful places, did not supply the want. A residential colonial house would be a means of bringing together all the colonies and of fostering a sympathetic and statesmanlike spirit. Sir William Muir moved and Professor Prothero seconded: "That this meeting cordially approves and warmly supports the suggestion of providing a residence or residences for the use of members of the very large body of students attending the University from the colonies and India; and also that this meeting expresses its sympathy with the work already done by the London committee and pledges itself to support their efforts." Professor Crum Brown moved, "That a committee be appointed to forward the matter in conjunction with the London committee and to arrange for a joint meeting to be held in Edinburgh at a subsequent date." Both motions were carried. The first meeting of the committee thus appointed was held on Jan. 3rd at the University Union. Several general suggestions were brought forward which met with the approval of the committee. It was agreed that a maximum of 25 residents should be adhered to as the most suitable number for the residential colonial houses and that it would be advisable eventually to have a separate house for each colony, although in the meantime this might not be practicable. It was estimated that the sum required for each house furnished, and including a reserve guarantee against possible deficiencies, would amount to from £5000 to £6000. The amount might be raised privately by colonists and other interested individuals, and ultimately applied to the erection or purchase of buildings, while the income from the funds might meantime be employed in renting one or more houses as might be required. These buildings might be managed by special committees appointed by the University Court which should have as conveners representatives of the Colonial Government.

BACTERIOLOGY OF TYPHUS FEVER.

TYPHUS fever has undergone a great decline in both England and Scotland during the last 30 years and has been comparatively rare in London for 20 years. An outbreak having occurred in Edinburgh last November, as mentioned in THE LANCET of Dec. 3rd and 10th (pages 1509 and 1588), Dr. Andrew Balfour and Dr. Charles Porter, members of the staff of the Edinburgh City Hospital, took advantage of the opportunity presented for bacteriological investigation and have published a preliminary notice of their results in the February number of the *Edinburgh Medical Journal*, with the reservation that "it is not intended at present to make any comments on this research nor to put forward as yet any theory regarding it." Seven cases of undoubted typhus fever were examined *post mortem* and in all of them a diplococcus was found. In six of these cases an examination with the usual precautions was made of blood from the heart, the spleen, and the lung. In four of the six cases the diplococcus was present in each organ. Of the remaining two, one showed the organism in both spleen and lung but not in the heart, while the other exhibited it in the lung only. In the seventh case the examination was limited to the spleen. Microscopically, under the ordinary high power the organism appeared as a well-marked diplococcus, apparently about 2 μ in transverse diameter, with no appearance of a capsule. It stained well with carbol fuchsin or gentian-violet and retained the stain by Gram's method. In some instances it tended to occur in chains, tetrad formations, and small clusters, but generally it was found as a separate diplococcus. It grew rapidly in broth and milk and seemed to possess the power of coagulating the latter in from 24 to 48 hours. It was easily cultivated on agar, blood serum, Löffler's blood serum, and potato. There was no formation of gas in glucose jelly. The most favourable temperature for its growth appeared to be 37° C. Blood from the thumb in 19 undoubted cases was examined by means of films, hanging drops, and broth cultures. 15 of these were acute cases, ranging from the fourth to the fourteenth day of fever, and in every case large numbers of diplococci were found after the broth had been incubated at 37° C. for from 12 to 48 hours. Many of the cases were examined on several occasions and at no time was the diplococcus absent. In addition, seven control cases were examined, one being a case of scarlet fever, one of measles, the others being cases exposed to the infection of typhus fever but showing no symptoms of the disease. In only one of these, a quarantine case, was the diplococcus present, in reference to which the suggestion was made that the patient, a boy, might have already had a slight and unrecognised attack of typhus fever.

SEWER VENTILATORS.

THE sewer ventilators in our streets are an abomination and more especially when they are not elevated. They cannot be dispensed with, as otherwise the evil emanations of a sewer would probably be forced up into the houses and thus a worse state of things would be established. But at least these ventilators should be raised well above the average breathing level instead of being sunk at the street-level pouring forth disgusting and poisonous stenches immediately under the pedestrian's nose. As a correspondent has pointed out in a recent communication to us bearing on the prevalence of diphtheria, this disease is most common in houses abutting on the sewer ventilators. The distribution of the poisonous gases can be easily traced in cold weather, when a foul vapour can be seen rapidly issuing from the ventilator. The elevation of these ventilators would not entirely remove the evil, but it would considerably diminish the danger which now arises. Children, as our correspondent says, play about the jaws of the death-traps which yawn for them by hundreds in the narrow roads of our poorer districts and into the houses of which drift the foul air and vapours through each open door and window. This is a serious indictment and calls for the abolition of street-level sewer ventilators in favour of the elevated ventilators which have been adopted in many places with a marked favourable influence on the public health.

TUBERCULOSIS AND SECONDHAND CLOTHING.

MR. ANTONY ROCHE, Professor of Public Health at the (Roman) Catholic University of Dublin, has been delivering a very admirable lecture upon the Cause and Prevention of Consumption to an audience of Dublin artisans. We are all the more grateful to Professor Roche for this step because whatever boards of health and the various sanitary authorities may do the prevention of consumption must lie very much in the hands of the people themselves. Professor Roche drew attention to a point which is not, perhaps, as much insisted on as it should be—namely, the facilities for the spread of infection offered by the sale and barter of secondhand clothing. "Clothes," he says, "may not be a very common medium for the spread, still the tailoring of clothes in overcrowded workshops with the possible infection from one or more sufferers among the workmen or women is a possible danger; so is the buying of the secondhand clothes which may have been worn by consumptive owners and also the storing of infected clothes in the warehouses of pawn-offices. I long ago advocated the compulsory disinfection of all clothes in pawn-offices by the sanitary authorities as a safeguard against the spread by them of this and other infectious diseases." With regard to cheap tailors' workshops much has been done since Mayhew in his "London Labour and London Poor" drew his graphic pictures of the unhealthy workshops and "Parson Lot" fulminated with all the strength of his fiery nature against the same evil, but much still remains to be done. As to pawnshops we doubt whether anything has been done, and they certainly are likely to be fruitful sources of infection. Professor Roche's lecture ought to do a great deal of good. The artisan, though naturally ignorant upon hygienic matters, for he has never been instructed, is by no means a fool and will, we are sure, do his best not only for himself but for his neighbour when he understands the necessity for action.

AN ASSOCIATION OF SCHOOL GOVERNORS.

WE have received what we suppose we may call a prospectus of a new association to be entitled "An Association of the Managers and Governors of Schools for the Working Classes in the United Kingdom." The document is very lengthy, but so far as we gather it proposes to bind together all managers or governors of working-class schools into one association. The Association is to confine itself entirely to secular education and the subscription per member is to be 5*s*. Among other matters the association is to work for the object of getting the whole cost of the education of the children of the working classes paid for by the contributions of the whole community. This is an object with which we are in hearty accordance, for as at present constituted the education rate is the most unfair and preposterous of all the taxes which the long-suffering ratepayer has to provide. The circular is signed by Mr. C. E. Luard, a county councillor for Kent, and he announces that Mr. C. G. Montefiore of 12, Portman-square, has consented to act as provisional trustee of any funds entrusted to Mr. Luard towards the objects of the Association. We are glad to see this noted for Mr. Montefiore's name is so closely connected with good work done in the matter of education that the fact of his showing interest in the Association should augur well for its future usefulness.

THE VACCINATION OF WORKHOUSE CHILDREN.

IT is not the least fault of the Vaccination Act of 1898 that it is likely to be the subject of endless debates and discordant interpretations. The "satisfaction" of the magistrate as to the "conscientiousness" of the objection of a parent is an insoluble difficulty to be removed only by being ignored. We are threatened with a Parliamentary debate on quite another point—the legality of an "offer to vaccinate" by a medical officer of a workhouse any child resident in a workhouse at the age of two months. Mr. Channing, the member for East Northamptonshire, finds that the form of vaccination contract with the medical officer of a workhouse in the second schedule of the order of Oct 18th empowers and compels the medical officer to make such an offer. Mr. Channing, with the genuine Northamptonshire antipathy to vaccination, sees in this a violation of the section of the Act which extends the age for vaccination from three to six months and expressly provides that no pressure shall be put on the parent till four months. He has made his complaint to the Local Government Board. The Board has replied that they see nothing in Paragraph 2 of the vaccination contract to be entered into between guardians and the medical officers of workhouses which is inconsistent with the Vaccination Act of 1898. The peculiar circumstances of workhouse life, especially of children born in workhouses, whose parents generally leave the workhouse before the age of four months, suggest and justify the "offer" of vaccination to such children. No pressure is intended to be applied to the parent who though a pauper may have the sense to see the advantage of the early vaccination of her child before leaving the workhouse and of accepting the "offer" which the order in question has very properly provided. Mr. Channing and his friends will do well to be content with the temporary victory which they have gained over the intelligence of Parliament and not to provoke discussions on this most questionable legislation. Sub-section 5 of Section 1 of the Bill, introduced at the instigation of Mr. Channing and accepted by Mr. Chaplin, was not to prevent the "offer" of vaccination at two months but to secure the same law of vaccination for the inmates of workhouses as for those outside.

MUNICIPAL BACTERIOLOGY.

THE indefatigable Dr. Waldo, medical officer of health for the Vestry of St. George-the-Martyr, Southwark, has met with a rebuff in his crusade against disease. He recommended some time ago that the vestry should undertake the bacteriological examination of doubtful cases of typhoid fever and diphtheria. Camberwell has already done this and there is no reason that we can see why other parishes should not do likewise. This proposal would involve the distribution of sterilised tubes to practitioners for the collection of cultivable material. But the Public Health Committee of the vestry would have none of it and so at the meeting of the vestry held on Jan. 24th a motion was carried to proceed no further in the matter. Wisdom, however, will, we are sure, prevail in the end.

THE INEBRIATES ACT, 1898, AND THE HOME OFFICE.

THE Home Secretary has addressed to the judges, chairmen of quarter sessions, and recorders a circular letter on the administration of this Act which may be summarised as follows. A certain number of certified reformatories may be expected to be established and ready for the reception of inmates by the time the Act comes into effective operation. This date, as we have pointed out in a previous issue, cannot be until the model regulations propounded by the Home Office have lain on the table of each House of Parliament for four weeks. The provision of State reformatories is to be for the present postponed, as it has not been possible to obtain trustworthy statistics as to the extent to which they will be required. It will be remembered that habitual drunkards who are for the fourth time within 12 months convicted of any of certain scheduled offences may be detained for a period not exceeding three years in a certified inebriate reformatory and that State reformatories are only to be used under the Act for the reception of persons convicted on indictment of an offence punishable with penal servitude or imprisonment, when the offence was committed under the influence of drink, or with drink as a contributing cause, and by an habitual drunkard. These persons can be received into certified reformatories as well as into a State reformatory and it is no doubt owing to the uncertainty as to the extent to which the former will be provided by public bodies and private individuals that the Home Secretary proposes to postpone asking the Treasury to provide funds for the institution of the latter. He has considered the possibility of adapting an existing prison for the purposes of a State reformatory and has been strongly advised against it. Consequently he suggests that, on the Act coming into effect committals be made to certified reformatories only. The only other important point upon which he touches is that of the duration of the term of confinement in a reformatory which is to be imposed, and he points out that whereas he has been advised that periods of a few months will be useless for the effecting of any permanent benefit to the person committed, if the full possible sentence of three years' confinement be passed a system of licensing or probationary discharge can and will be always brought into operation as early in each case as the circumstances will allow. In addition to this he calls attention to the model regulations, as showing that the detention will not be of a punitive but of a reformatory character only. It is also stated that information will be obtainable as to the institution most suited for and likely to receive particular cases, the accused being meanwhile remanded or committed to prison. From the above it can be seen that the Act is to be given a fair trial; indeed, the reported remarks of judges and magistrates alike show that the administrators of the criminal law are prepared to welcome its provisions as soon as may be and to make full use of them. At the same time the practical question of where any individual inebriate is to be received is one which in spite of the assurance cited may be of grave difficulty. Obviously those reformatories which county and borough councils institute will only be willing to receive inmates from contributing districts, while private ones may be far to seek; and again public bodies may wait to take steps until the resources of private benevolence within their jurisdiction or within easy reach of it have been exhausted.

GONORRHŒAL ARTHRITIS TREATED BY INCISION AND IRRIGATION.

IN the *Boston Medical and Surgical Journal*, Dec. 29th, 1898, Dr. John Homans has described a case of gonorrhœal arthritis of the knee-joint treated by incision and drainage. A man, aged 25 years, had gonorrhœa and left epididymitis. After three weeks he had pain and stiffness in the knees which persisted in the left knee. The latter became swollen and tender but not red, and the inguinal glands were enlarged. The bursa patellæ stood out very plainly. The urethral discharge was slight and muco-purulent. The joint became larger and the pain kept the patient awake for four nights. A two-inch incision was made over the outer edge of the patella and the capsule was opened. 10 ounces of thin, brownish, sero-purulent fluid were evacuated. The cavity was explored with the finger and several fibrinous flakes were removed. The joint was flushed with normal saline solution at 120° F., sterile wicks were passed through and the cavity was wiped out. A second douching was performed. A gauze wick was drawn through and the ends of the wound were sutured. A dry dressing with compression and a back splint were applied. On the third day the dressing was changed; the synovitis was much diminished and there was a slight serous discharge on removing the wick. On the seventh day the patient was perfectly comfortable and on the eighteenth day he was discharged. Gonococci were not found in the discharge.

POST-MORTEM EXAMINATIONS UPON A CORONER'S WARRANT.

IT will be remembered that in THE LANCET of Jan. 7th we commented upon the perfunctory manner in which a medical man had made a post-mortem examination upon the authority of a coroner's warrant. Another somewhat similar case has now occurred at St. Albans during the holding of an inquest by Dr. Lovell Drage. The facts were shortly as follows. A man was picked up in the street unconscious and conveyed to the workhouse infirmary; he had vomited freely. The workhouse nurse deposed to receiving the deceased who was then conscious but who rapidly became worse. He was admitted at three o'clock and the medical officer was sent for at half-past eight, but the patient was dead when he arrived. The medical officer, Mr. T. P. G. Wells, said that he had made a post-mortem examination and found old pleurisy and general congestion of the lungs. He did not examine the brain. The coroner said he should adjourn the inquest. Post-mortem examinations must be made with completeness. At the adjourned inquest Mr. H. L. Bates said that he had made a post-mortem examination in conjunction with Mr. Wells. He found a large cerebral hæmorrhage This was the cause of death A verdict in accordance with this evidence was returned The coroner censured Mr Wells, pointing out that he (the coroner) had in his order made a special note to the effect that the principal organs were to be examined Mr Wells had not done this and he should disallow his expenses Mr Wells replied that he considered he had found enough evidence in the lungs as to the cause of death and moreover, the post mortem room was anything but luxurious We do not think for a moment that Mr Wells wished to mislead the jury but there is no doubt that he did not perform the post-mortem examination strictly in accordance with the coroner s instructions

BARBER S ANTISEPSIS

THE choice of an antiseptic is a matter of some importance to the hairdresser since his customers commonly expect him to be a man who can furnish them with a so called hair tonic or wash to improve the condition of the scalp and to prevent dandruff or scurf It is a matter of still greater importance to the public, as unwittingly the barber may be administering a hair wash possessing dangerous properties Seborrhœa (dandruff) is a condition caused by a micro organism and an antiseptic is therefore indicated in such a case There are no diplomas granted to the barber with a view of qualifying him for his business and he is not generally a man possessing any knowledge of pharmacy He should on no account therefore be tempted to employ highly poisonous antiseptics Yet a solution of corrosive sublimate is a favourite application with not a few In the majority of cases the hairdresser is quite ignorant of the dangerous nature of such a preparation but under certain conditions as in abrasions mercury would be readily absorbed and mercurialism might result Corrosive sublimate should never be used for the purpose and carbolic acid and other corrosives should be avoided especially as there are a great number of equally effective and comparatively non poisonous antiseptics to choose from Such, for example are salicylate of soda, benzoate of soda, tincture of gum benzoin, borax beta naphthol, and resorcin, with which can be combined such pleasant aromatic as well as antiseptic oils as eucalyptus and thymol

NEW YORK PORT SANITARY DISTRICT

DR A H DOTY the health officer of the port, remarks in his annual report for 1897 that during that year 220 186 immigrants arrived in the United States and of this number no less than 192 004 disembarked at New York It is interesting to observe that nearly half the total number of foreign vessels arriving at New York during the year were British, but we notice also that a very large number of immigrants are carried by German lines The total number of immigrants arriving at New York varies enormously year by year In 1891 there were 445 290, in 1892, 388 486 in 1893, 364,700, in 1894 188 164, in 1895 258 560 in 1896 252 350, and in 1897 192 004 The great falling off in 1894 was caused by the prevalence of cholera in Europe which interfered very markedly with the tide of immigration As regards the inspection of vessels arriving at New York Dr Doty states that the immigrants are in all cases examined but that on the transatlantic or mail steamers the crews and saloon passengers are not as a rule inspected, the deposition of the captain and surgeon being accepted If however a suspicious case of infectious disease has occurred on the voyage or is detected on arrival a thorough examination is made as is also the case when the vessel comes from an infected port more especially from one where yellow fever is present Owing to the prevalence of this latter disease at Panama during 1897 and the occurrence of cases on board vessels bound for New York a sharp look-out was kept. The patients were removed to Swinburne Island Hospital and the remaining steerage passengers were transferred to Hoffman Island for observation during five days the crews being allowed to proceed in the ship to the docks where they also were kept under observation Every vessel arriving from Panama during the prevalence of yellow fever there was disinfected. So, too with regard to persons from Havana it was determined to insist upon a medical examination prior to departure If those wishing to sail were natives or had had yellow fever they were allowed to sail, but otherwise they were kept under observation for five days The ships crews were not allowed on shore at Havana Vessels arriving from Brazil when yellow fever was present were detained at New York for four or five hours only, as the length of the passage was regarded as sufficient quarantine, The cabin and forecastle the clothing of the crews, and the bedding were however, disinfected in all cases We are glad to hear that a bacteriological laboratory has been erected on Swinburne Island and that some useful work is being done thereon

THE JERSEY MEDICAL SOCIETY AND TUBERCULOSIS

THE Jersey Medical Society recently appointed a committee to examine into the question of human and bovine tuberculosis in the island The report is now published and the committee find as follows In the town of St Helier which was chosen instead of the whole island on account of the imperfection of country death registers twenty years ago the tuberculous death rate from 1872 to 1876 inclusive was 542, being a mortality of 4 2 per 1000 living per annum and of 182 5 per 1000 deaths reckoning the population at 27,000 From 1892 to 1896 inclusive the total of tuberculous deaths was 305, being a mortality per 1000 living of 1 05 per annum and 106 57 per 1000 deaths the population being reckoned at 29 000 As to bovine tuberculosis the committee find that it can hardly be said to exist It must be remembered that the Channel Island States have instituted State slaughter houses and recommend that all meat should be killed there and strictly examined The committee would like to see this regulation more strictly enforced than at present In London we have not got as far as that yet 833 years ago the Channel Islands conquered England It is time that we followed our conquerors example

DANGEROUS INCOMPATIBLES

AN important case, but with a sad sequel, has been reported to us by a correspondent in Johannesburg The death of a young woman was caused by the administration of a medicine containing liquor strychniæ in conjunction with liquor arsenicalis We do not know the precise circumstances of the case but it should be instrumental in drawing serious attention to the question as to whether such a combination should be given together in a mixture in a bottle Of course the alkali of the liquor arsenicalis precipitates the strychnine in the form of the pure alkaloid, and the residue, which may amount to an excessively poisonous dose may be taken in the last dose in the bottle We have no hesitation in saying that such a mixture should never be dispensed although we find it stated in books on dispensing that liquor strychniæ and liquor arsenicalis are sometimes prescribed together In this form the alkali of the latter precipitates the strychnine, so that a shake the bottle label must be used.[1] The risk, we consider, is too great to countenance such a mixture being dispensed. The alkaline solution of arsenic should be kept separate from the strychnine and the two should be administered separately in equal quantities. The discretion of the public is too variable a factor to be relied upon to seriously observe the notice to shake the bottle in the case of mixtures likely to contain an extremely poisonous sediment. We may add that the use of the liquor arsenici hydrochloridi would obviate all risk of strychnine poisoning from precipitation.

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[1] Vide "The Art of Dispensing" published at the offices of the Chem E.C.

THE RESPONSIBILITIES OF CERTIFYING FACTORY SURGEONS.

THE Home Office has recently issued a memorandum to certifying factory surgeons reminding them of their duties under Section 29 of the Factory and Workshop Act, 1895. It very clearly states the duties of the certifying surgeon and should leave his mind perfectly clear as to the scope of his energies in this matter. The memorandum contains, however, certain information bearing on industrial lead poisoning which should be useful to the general practitioner. Thus it sums up the symptoms of lead poisoning, diagnosis, and the variety of manifestations met with as a consequence of lead poisoning. In one paragraph it is pointed out that the necessity for notification does not arise until lead poisoning is diagnosed and in general unless the symptoms are of such a nature as to require abstention from work. Explicit directions are further given as to when abstention from work should be ordered. The memorandum is drawn up by Dr. Whitelegge, the Chief Inspector of Factories, and general practitioners, as well as those more closely concerned with the question, will find some points well worth noting.

ADDITIONAL LUNACY AND VACCINATION FEES DUE TO MEDICAL OFFICERS OF WORKHOUSES.

IN another column (p. 407) a correspondent asks a series of questions relating to the fees due to a medical officer of a workhouse for services in connexion with lunatics and vaccinations. In the first place, it may be observed that it makes no difference in either of these matters whether the medical officer is resident or non-resident. Lunacy fees are payable to the medical officer not in virtue of his office but in the capacity of a medical practitioner, and the method of payment is settled under the *Lunacy Acts*. When an alleged lunatic is brought into the workhouse it is the duty of the relieving officer who brought the case to lay information thereof before a lunacy justice or magistrate who then summons a medical practitioner, preferably the medical officer of the workhouse who is already acquainted with the case, to his aid, for which he makes an order on the guardians for the payment of the fee—usually one guinea. The medical man is entitled to that fee for examining and reporting on the alleged lunatic, whether a detention order or an order of removal (certificate of insanity) is made or no; This is a point which is often misunderstood and which cannot be too much insisted upon. The fee is not paid for "certifying" to a person's lunacy but for "examining and reporting upon" an alleged lunatic. The justice cannot, or should not, act without first calling in a medical man—he is directed so to do by the Act—with whose assistance and upon whose report he makes either an *order for 14 days' detention*, or discharges the person there and then, or at once signs the certificate for his removal to an asylum. In any case the medical man is entitled to his fee. If after making a detention order the patient subsequently has to be certified for removal to an asylum by the same medical man—i.e., by the medical officer of the workhouse—which frequently happens, he is not entitled to two fees for the same case, one for examining and reporting at the time of detention and one for certifying for removal. The amount paid is entirely within the discretion of the justice, not that of the guardians who are bound to pay the sum ordered by the justice. When extra trouble is involved or extra distance is travelled a fee of two guineas is sometimes ordered. It is not usually paid "at the time," as suggested by our correspondent, but the medical officer usually presents all the quarter's account to the clerk to the guardians at the end of the quarter as a matter of convenience. As regards the question of vaccination fees, these are settled by the Vaccination Acts and the Orders issued by the Local Government Board in pursuance of the powers vested in them thereby. For the purpose of vaccinating the inmates the workhouse is a "vaccination district" and the medical officer, whether resident or non-resident, is the "public vaccinator" thereof within the meaning of the Act. At the time of his appointment a vaccination contract with the guardians for the performance of vaccinations at a given fee is usually drawn up. The medical officer is entitled to the minimum fee payable to public vaccinators under the Act, unless at the time of his appointment the guardians, with the sanction of the Local Government Board (which is not now usually given), have stipulated that he shall do the vaccinations without a fee. The guardians very rarely allow a higher fee than the minimum, excepting perhaps on the extremely rare occasions when they wish to recompense their officer by some payment which they have been unable to make in another direction, as, for example, a proposed increase of salary which the Local Government Board would not sanction.

FREE MEALS FOR SCHOOL BOARD CHILDREN.

LORD REAY, the chairman of the School Board for London, has forwarded a communication to the daily journals asking the public for a continued and extended financial support to the London Schools Dinner Association which supplies funds for providing cheap or free meals for necessitous children. The object, we need scarcely add, should commend itself to the consideration of benevolent people on the grounds alike of humanity, common-sense, and hygiene, for it is hopeless to expect that without such aid hungry and destitute children can be physically fit to profit from the education which the schools afford. The funds of the association are administered by local committees who see that the distribution of this aid is limited to those who are really in need of it. If we want to maintain a fair standard of health among board school children and to see them grow up physically as well as mentally fit to take part in their future struggle for life provision must obviously be made for feeding their bodies in the case of destitute and underfed children as well as for educating their minds. Donations are received by the honorary treasurer, Lord Kinnaird, 1, Pall Mall East, or by the Secretary of the Association, 37, Norfolk-street, Strand.

A DECADE OF HYGIENIC MAXIMS.

AMONGST 500 competitors Dr. Decornet of Ferté-sur-Aube has been proclaimed the winner of the prize which was offered by the publishing firm of Messrs. Hachette et Cie in their "Annual Almanack" for 1897. The candidates were required to state briefly under 10 heads the most effectual rules for preserving health, mental and bodily. The following are Dr. Decornet's 10 maxims:—1. General Hygiene: Rise early, go to bed early, and in the meantime keep yourself occupied. 2. Respiratory Hygiene: Water and bread sustain life but pure air and sunlight are indispensable for health. 3. Gastro-intestinal Hygiene: Frugality and sobriety are the best elixir for a long life. 4. Epidermal Hygiene: Cleanliness preserves from rust; the best kept machines last longest. 5. Sleep Hygiene: A sufficiency of rest repairs and strengthens; too much rest weakens and makes soft. 6. Clothes Hygiene: He is well clothed who keeps his body sufficiently warm, safeguarding it from all abrupt changes of temperature while at the same time maintaining perfect freedom of motion. 7. House Hygiene: A house that is clean and cheerful makes a happy home. 8. Moral Hygiene: The mind reposes and resumes its edge by means of relaxation and amusement, but excess opens the door to the passions and these attract the vices. 9. Intellectual Hygiene: Gaiety conduces to love of life and love of life is the half of health; on the other hand, sadness and gloom help on old age. 10. Professional Hygiene: Is it your brain that feeds you? Don't allow your arms and your legs to become ankylosed. Dig for a livelihood, but don't omit to burnish your intellect and elevate your thoughts.

THE meeting of the Pathological Society of London on Tuesday, Feb. 21st, will be devoted to a discussion of the nature of Pseudo-tuberculosis. Specimens and lantern slides will be shown and it is hoped that as much material as possible will be brought together; any members willing to contribute are requested to communicate with the secretaries of the society. One of the objects of the discussion will be to obtain a more definite idea as to what lesions should be included under the heading of Pseudo-tuberculosis. Dr. G. Sims Woodhead will introduce the discussion and other speakers will follow, including Professor Sidney Martin, F.R.S., Professor John McFadyean, Dr. J. W. Washbourn, Mr. Pakes, and Dr. Wethered.

MR. H. E ANNETT, M.B., Ch.B. Vict., has been appointed Demonstrator of Tropical Pathology in the newly founded school of tropical diseases in Liverpool. Dr. Annett has been studying in Koch's laboratory in Berlin for the past two years. His career at University College, Liverpool, was a distinguished one. He there obtained the Lyon Jones Scholarship (Senior and Junior) and the Holt Fellowship in Pathology. Dr. Annett was also appointed Research Scholar by the Commissioners of the 1851 Exhibition.

AT an influential meeting of the Medical Committee of the Brompton Hospital for Consumption and Diseases of the Chest held recently, Dr. Green being in the chair, it was unanimously resolved that the new treatment of tuberculosis be tried at that institution, and the subject is now under consideration by the committee of management, together with that of the establishment of a sanatorium in the country, for which funds are urgently needed.

WE regret to learn the death of Mr. Thomas Cooke, F.R.C.S. Eng., which occurred suddenly from aneurysm at 40, Brunswick-square, W.C., on Wednesday afternoon. We shall publish an obituary notice in our next issue. The funeral will take place on Monday next at 2 P.M. at Kensal Green Cemetery.

SUMMONSES have been issued for the usual February meeting of the Executive Committee of the General Medical Council. The meeting will be held on Monday, the 27th inst. Summonses have also been issued for a meeting of the Penal Cases Committee to be held on Tuesday, Feb. 28th.

THE Home Secretary has, in accordance with the provisions of the Inebriates Act, 1898, appointed Dr. R. Walsh Branthwaite to be an inspector under the Inebriates Acts, 1879 to 1898.

A CASE of bubonic plague is reported from Middelburg, South Africa, the patient being an Indian who recently arrived from Bombay.

THE Governors of the Radcliffe Infirmary, Oxford, have received a munificent gift of £2500 from Mr. T. H. Rose of Oxford.

PROFESSOR J. W. BYERS has been appointed Examiner in Midwifery to the Royal University of Ireland for the year 1899

TUBERCULOSIS AND MILK-SUPPLY.

FRESH evidence accumulates day by day of the relation of tuberculosis to milk-supply. We have already published in our columns several communications on the subject which leave little doubt of the risk to which the health of the community is exposed by the consumption of milk infected with the tubercle bacillus. The relation thus established calls for vigorous control of our milk-supplies at home and abroad. Among those who were foremost in taking steps to ascertain how far the spread of tuberculosis could be referred to milk-supply was the City Council of Liverpool. To the credit of one of the members of the Health Committee, Mr. Anthony Shelmerdine, an investigation was started in December, 1896, when at his instance 50 samples were obtained from 50 different milk-sellers in Liverpool and were immediately submitted to bacteriological examination by Dr. Sims Woodhead and Dr. Cartwright Wood. It may be briefly stated as the result of this investigation that of the 50 samples examined five were capable of setting up tuberculosis in guinea-pigs and that accordingly 10 per cent. of the samples of milk under examination must be regarded as being infected with the tubercle bacillus. The individual details of the results of biological experiment are of interest but we may omit the 45 examples which proved to yield negative results both on subcutaneous (three cubic centimetres) and intraperitoneal (two cubic centimetres) injection. As just stated, five samples of milk appeared capable of setting up tuberculosis in the guinea-pigs inoculated. In three of these samples, Dr. Sims Woodhead and Dr. Cartwright Wood remark, both of the animals inoculated developed tuberculosis, while in two other cases only one of the animals inoculated with the milk developed the disease. "As it is a very unusual thing for animals which have been injected with tubercular material to escape the infection we must consider the question why half of the animals injected with these two samples escaped and also the possibility of these animals having contracted the disease otherwise than through the samples of milk with which they were inoculated. When a set of animals are inoculated with the milk containing tubercle bacilli from a cow suffering from tuberculosis of the udder all the animals succumb to the disease. Bollinger, however, pointed out that when such a milk was diluted sufficiently (40 to 100 times) with sound milk the mixture was unable to set up the disease. He concluded from this that the milk from a dairy, in which of course the milk from a large number of cows is mixed together, would probably not be rendered infective as a whole by the presence of the tuberculous milk, but that on the other hand the dilution would tend to render the milk as a whole innocuous. Our knowledge of other disease organisms would certainly lead us to expect that the dilution of the infective fluid would exert great influence on its virulence since it has been proved in the case of certain pathogenic germs that a certain definite number of bacilli are necessary to infect the animal and that where we pass much below this dose the animal may escape. It has also been shown that the dose required to infect varies greatly with different species of animals, and no doubt there is a considerable range in the amount required with different animals of the same species. Wyssokowitschky has tried to determine the number of tubercle bacilli necessary to infect a guinea-pig. He found that from eight to 30 virulent bacilli *introduced into the peritoneal cavity are necessary to* bring about infection of a guinea-pig. No doubt these results are merely approximate, as much would depend on the virulence of the bacilli experimented with and also the individual susceptibility of the guinea-pigs which can, as a rule, be quite safely ignored in an ordinary inoculation but which would here have an opportunity of displaying itself where the quantity introduced is as small as to verge on the minimal quantity necessary for infection. Although, as we have already stated, in our experience all the animals inoculated with the milk from a cow either develop tuberculosis or remain unaffected, according as the udder happens to be affected with the disease or to be free, this need not hold in the case of milk obtained from a dairy. It is quite possible, or even probable, for a tuberculous milk to be so diluted with other milks in a dairy as to be capable of giving rise to the disease in only a certain proportion of the animals inoculated. Under such circumstances we should expect the disease to manifest itself differently and to run a much more chronic course, and this, as a matter of fact, was the case. Indeed, the disease which resulted from the injections of the milks was much less advanced than one would have expected, and as there is often some difficulty in demonstrating microscopically the presence of tubercle bacilli in such cases, we took the precaution of inoculating a second guinea-pig with some of the diseased organ which was suspected to be tubercular. As will be observed where the material was infective the disease ran a much more rapid course than in the animals primarily inoculated. This is to be accounted for by the fact that they probably received a much larger quantity of the infective agent than was present in the original milk. It will also be noted that in the cases infected directly from the milk the disease was sometimes almost localised and did not always appear to spread directly along the track of the lymphatics, but would sometimes appear to make a leap and attack some other organ, such as the spleen or liver. This is a type of the disease which we should expect to meet with where the animals had been inoculated with a weak virus or a small quantity of the infective agent. We are accordingly of the opinion that these two samples of milk contained tubercle bacilli, although the amount of the infective agent present was probably not very large. It may also be suggested, in view of these facts, that we might possibly have been able to demonstrate the presence of tubercle in some of those samples of milk which gave us a negative result if we had brought a larger quantity of the material under examination by inoculating a larger series of animals and perhaps also by allowing them a longer period in which to develop the disease."

The reports of the examination of the samples thus referred to we append:—

SAMPLE (NO. 11 IN THE REPORT).

The "subcutaneous" guinea-pig when killed on the thirty-fourth day was found to be apparently quite healthy in all the organs and no trace of tubercle could be found.

The "intraperitoneal" guinea-pig was killed on the thirty-fourth day. On opening into the abdominal cavity a small yellow point apparently tuberculous in its origin was observed on the abdominal wall. The spleen contained one small nodule but was otherwise unaffected. The mesenteric glands were enlarged and harder than normal but in one case contained a small mass of caseous material from which cover-glass preparations were made and a guinea-pig was inoculated. Microscopic examination showed the presence of tubercle bacilli. The inoculated guinea-pig was killed on the forty-eighth day. The inguinal glands on both sides were enlarged, but not extensively. The spleen, liver, lungs, and glands at the root of the lungs were all extensively tuberculous.

SAMPLE (NO. 44 IN THE REPORT).

The "subcutaneous" guinea-pig was killed on the thirty-sixth day. The inguinal gland on the side of injection was very much enlarged and filled with cheesy pus. Cover-glass preparations of this pus showed the presence of tubercle bacilli. None of the other organs were manifestly affected. A guinea-pig inoculated with the pus from the abscess on being killed 48 days after was found to have developed tubercle. The inguinal glands, spleen, liver, lungs, and glands at the root of the lung were all affected with tubercle.

The "intraperitoneal" guinea-pig was killed on the thirtieth day but a careful examination failed to show the presence of tubercle in any of the organs.

As already stated, three other samples gave immediate evidence of tuberculous infective property.

The direct microscopical examination of these milks for the presence of tubercle bacilli gave in every case a negative result, as indeed might have been expected under the circumstances considering that the infected milk was probably diluted many times with that of sound animals. The probability of the bacilli being present in very small numbers in at least two of the samples was rendered very strong by the fact of only half of the animals inoculated with these milks becoming infected and because the lesions set up were much less marked than is usually the case.

The results of this investigation indicate the desirability in the case of mixed milks—such as are obtained from a dairy—of bringing under examination a larger amount of the suspected milk by making a more extensive series of animal inoculations than has up to the present been usually considered sufficient.

METROPOLITAN WATER COMPANIES' BILL.

WE have already announced[1] that the Metropolitan Water Companies' Bill[2] has passed through the Private Bills Office. The Bill is drawn up very much on the lines suggested in the resolutions passed by the directors of the associated companies which were placed before the Royal Commission now sitting and which were published *in extenso* in THE LANCET of Jan. 28th, p. 242. The Bill, although not of great length, is one of considerable importance; it consists of 24 sections.

The preamble states that it is expedient, with the view to obviate the possibility of a deficiency of water-supply in time of drought or by reason of accident or emergency, that provision should be made for improving the intercommunication between the mains of the different companies, and that the metropolitan water companies ought therefore to be allowed temporarily and with the sanction of the Local Government Board to abstract when necessary an increased amount of water from the Thames. It is stated that since the last session of Parliament certain work has been done by some of the metropolitan water companies which would have been legal had the present Bill been passed by Parliament and it is suggested that the Bill should be retrospective as far as work already carried out is concerned. It is suggested that it is expedient that the water companies, or in their default the Local Government Board, should appoint an arbitrator who should settle any differences which may arise under the Bill, and it is further suggested that the companies should be allowed to raise money on debenture stock to carry out the provisions of the Act. The Acts which it is proposed to incorporate are the Waterworks Clauses Act of 1847 (with respect to breaking up streets, &c.), the Lands Clauses Act (except those provisions respecting the purchase of land otherwise than by agreement), and Part 3 (debenture stock) of the Companies Clauses Act, 1863, as amended by the Act, 1869. All the metropolitan water companies are interested in the promotion of the Bill.

Under the provisions of the Bill it is proposed that within six months after it becomes an Act the water companies shall prepare and submit to the Local Government Board a statement describing the work which they propose to undertake for the improvement of intercommunication of mains. The Local Government Board are to have the power to direct inquiries with regard to the matters affecting intercommunication of the mains and are to possess the powers identical with those which they now have under the Public Health Act, 1875. The expenses of such inquiries are to be paid by the metropolitan water companies. The companies are to have power to lay new mains in the streets and to do any work necessary for that purpose in streets, bridges, &c., not only within their own limits of supply but within the limits of the statutory area of supply of any other of the metropolitan companies by permission of that company. In the case of drought any metropolitan company is to allow passage of water through their mains for the use of a company requiring an extra supply, but the mains are not to be so used to the prejudice of the arrangements for the supply of the customers of the company through whose mains the water is to pass.

The Local Government Board are to have power to authorise or require companies to abstract from the Thames or its tributaries an additional amount of water should occasion require The Local Government Board are to have power to require any company to increase their pumping power and to enforce orders and regulations to ensure the carrying out of these provisions The Board are also to have power to attach penalties for the omission of such orders and regulations, to recover them in a summary manner, and to apply them in any way they may direct. The metropolitan companies are to have power to acquire land and easements for carrying out the provisions of the Act An arbitrator is to be appointed within three months of the passing of the Act by the companies or, should they fail to agree by the Local Government Board The arbitrator so appointed is to hold his office for some period not greater than three years His remuneration is to be settled by the water companies or, should they fail to agree by the Local Government Board and he is to be paid by the water companies or some of them as they may agree in such proportion as the companies may from time to time agree upon or, should they not agree as the arbitrator himself may appoint An important clause relates to the retrospective action of the Act It is provided under Section 13 that—

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[1] THE LANCET, Jan. 28th, p. 245.

[2] A Bill for Improving and Facilitating Intercommunication between the Mains and Works of the Metropolitan Water Companies.

> 13. Anything done by any one or more of the metropolitan water companies before the passing of this Act which would have been valid and within their respective powers if this Act had been passed in the *session of Parliament holden in the year one thousand eight hundred* and ninety-eight and the expenditure of money by such company or companies in reference thereto is hereby sanctioned and confirmed.

The companies are to be allowed to raise money on debenture for the purposes of carrying out the Act New debenture stocks are to be offered by auction or tender, the purchase money of the capital sold by auction is to be paid within three months Notice is to be given to certain officials as to the sale of the shares The officials to be notified are the clerk of the London County Council, the town clerk of the City of London, the secretary of the London Stock Exchange, and the clerks of the various county councils who might be affected, and in the case of the East London Company the clerk of the Borough of West Ham The stock which is not sold by auction or tender is to be offered to shareholders Should there be a premium arising from the stock it is to be applied for the purposes of the Act The amount of stock is limited to £600 000 Certain provisions are made between the companies as to the payment of interest of debenture stock

MEDICAL QUALIFICATIONS IN FRANCE AND THE POSITION OF THE ALIEN MEDICAL MAN

IN our issue of Dec 10th 1898 we published a communication from our Paris correspondent upon the above important subject In this our correspondent was made to say "The *diplome d Université* does not authorise the holder to practise outside France herself . Foreigners who wished to practise in France were allowed to do so as before under easy conditions but they were only to receive the *diplome d Université* This statement of course implied that foreigners could practise in France with the *diplome d Université* This, however is not correct and we regret that owing to an error, and one which in justice to our Paris correspondent we wish to say was in no way due to him the statement should have appeared in our columns Our attention was called to the matter by a correspondent and we submitted his statement to our Paris correspondent who has sent us the following ' The *diplome d' Université* granted by the faculty of Paris gives no right to practise in France The medical study for it is the same as for the other diploma, but greater facilities are granted to foreigners for obtaining it and studies already gone through in their own countries are allowed to count The *diplome d état* alone gives the right to practise in France or her colonies and to obtain it the student before commencing his medical studies must undergo in France the examination for the *baccalauréat* (*bachelier de l enseignement secondaire classique*) and a preliminary examination in physics chemistry and natural science No remission of the preliminary examination is granted to any one, be he Frenchman or foreigner

THE ARMY MEDICAL SCHOOL, NETLEY.

THE winter session of 1898-99 was brought to a close on Jan 31st, when the results of the recent examination were announced and the prizes were distributed by Sir Ralph Knox, K C B , *Permanent Under Secretary of State for War*, in the presence of Surgeon General Jameson, C B , Director-General, A M S Lieutenant General Sir Baker Russell K C B , commanding the Southern District Surgeon General Cuffe, C B , P M O of Portsmouth, the military staff of the Royal Victoria Hospital, Netley, and a distinguished company of visitors

Colonel NOTTER, Professor of Hygiene, announced the results reporting that the work of the session had been satisfactory, that the whole of the 50 surgeons on probation who had undergone the final examination had proved themselves fitted to receive Her Majesty s commission that in general ability they were of fair average, and that their conduct while passing through the school had been excellent

The subjoined lists show the final positions of the officers with the marks which they obtained at the examinations and *the prizes gained at the Army Medical School*

ROYAL ARMY MEDICAL CORPS

	Combined marks		Combined marks
H F W Barrow	5047	W B Winkfield	4147
J L Hodgson	4796	T C Lauder	4044
**A. I Scott	4673	J W Leake	3925
I I L. Parker	4603	J W H Houghton	3828
J G Gill	4541	D L Curme	3806
G W G Jones	4383	H S Taylor	3803
M. H G Fell	4321	G M Goldsmith	3632
G H Goddard	4230	R. H. Lloyd	3434

INDIAN MEDICAL SERVICE.

	Combined marks		Combined marks
*J C H Leicester	6387	J N Walker	4222
†H Innes	5964	V H Roberts	4221
W S Willmore	5559	J D Robinson	4186
A E Walter	5104	C H B Adams	4163
C H Hudson	5029	G King	4082
††T R Hutchinson	5014	T S Ross	4027
C F Wellman	4832	G P T Groube	3872
H M Cruddas	4792	P P Atal	3827
A. M Fleming	4368	W McM Pearson	3779
E L Ward	4341	D O Kemp	3[illegible]64

NOMINATED SURGEONS-ON PROBATION

	Netley marks		Netley marks.
‡D S Harvey	2619	H D Packer	1993
J M Sloan	2545	L Humphrey	1946
H E Haymes	2532	R. S Rodger	1912
F. J Brakenridge	2500	W W Scarlett	1783
G C Phipps	2271	H K Palmer	1716
N J C Rutherford	2269	A. O B. Wroughton	1713
G J A. Ormsby	2197	F Ashe	1635

The positions of these gentlemen are determined by the marks gained at Netley

* Gained the Herbert Prize of £20 Martin Memorial Medal the De Chaumont Prize in Hygiene and the Second Montefiore Prize

† *Gained the First Montefiore Prize of 20 guineas and medal.*

** Gained the Parkes Memorial Medal.

†† Gained the Maclean Prize for Clinical and Ward Work

‡ *Gained the Pathology Prize presented by Surgeon General Hooper* C S I

SIR RALPH KNOX after distributing the prizes and saying a few words to each prize winner, especially to Mr Harvey who entered the Army Medical School by nomination and who, he said, by his diligence had shown that nomination had proved a success, addressed the young officers in a speech of which the following is an abstract He said he feared that his selection for the performance of the function was not peculiarly happy, for though for many years he had known much about army medical officers he had to confess that most of his thoughts were directed to ascertaining how few of them would suffice for their work and what was the minimum remuneration which would induce them to join the service He however, could say that his interest in the service had been very great and *that he had served* on many committees dealing with important questions connected with their *duties* Now, he had to *give them a word* of encouragement on starting on their career in life He *first congratulated* them on at last having completed that terrible examination period of life through which it appeared that all young men nowadays had to pass and he was very pleased to hear that the standard of their work was so high and the general results so satisfactory and he thought that they might look forward with confidence to their lives as members of the noblest and most continuously self-sacrificing of all professions. They must have high ideals, for a member of their service was both surgeon and soldier too. The firing of guns and rifles imposed no specially arduous task on anyone. What called for the display of all the finest soldierly qualities was the performance of these duties under fire; and it could not be said nowadays that anyone associated with the combatant army anywhere near the front was not within the zone of fire of the long range of the present field guns or that of the low-trajectory rifle. Doubtless there were men of various abilities in the class; some who had had good luck and some whose luck was bad, but with whatever ability they were equipped now that they were becoming members of the great social organism there were two qualities they should possess in order to secure success—namely, tact and courtesy—or in more homely phrase common-sense and good manners. Without these the best abilities often failed of success, and with them the deficient talent was often compensated. He would urge them to continue their reading not merely of technical works but of the best literature of their country; they should check in some way the narrowing influences of a special service. They should practise putting down their thoughts, whether technical as derived from their work or not, in writing. It was Bacon who said, "Reading maketh a full man, writing an exact man," and a medical officer in the army should be both; and the third of the three R's should not be neglected. It was most useful to cultivate arithmetical thought; they had doubtless learned something about statistics. These could not be properly prepared by anyone who did not accurately perceive the limited sense in which a fact could be stated in figures, and as army statistics afforded the information on which many all-important decisions depended he urged the careful preparation of the returns which they would be called upon to render. He feared that the remarks he had made were somewhat trite, but they contained such advice as he would give to his own son, and the short intercourse he had had with the young officers, especially the very agreeable and joyous evening of the day before, had led him to regard them as special boys of his own, whose names he now possessed, and whose careers in the future he would be always interested in. He congratulated them very sincerely and on behalf of all present offered them the heartiest good wishes for their future.

The DIRECTOR-GENERAL, after thanking Sir Ralph Knox for his able speech and for his kindness in coming to Netley, remarked that the young officers of the Indian Medical Service were sure to find interesting work in India and opportunities of distinction, for plague, pestilence, famine, and war were one or all of them nearly always present in the country they were going to. He congratulated them on obtaining their commissions. Turning to the young officers of the Royal Army Medical Corps he said that they were entering the service with a fair wind and that this was so was due to the wise policy of Lord Lansdowne who had given them the warrant which they so highly valued and whose name would in the future be ranked with that of Lord Herbert of Lea as one of the greatest benefactors of the medical service of the army. Associated with Lord Lansdowne in drawing up the recent warrant had been Sir Ralph Knox and his predecessor, Lord Haliburton, in both of whom the medical officers of the army had found firm and excellent friends.

The proceedings were brought to a termination by a few words addressed to the young officers by Surgeon-General NASH who wished them God-speed in their careers. The company was subsequently entertained at luncheon by Surgeon-General Nash and the officers of the Royal Army Medical Corps.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE forty-eighth sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Jan. 31st. The Commissioners present were the Chairman (Lord Llandaff), the Right Hon. John Mellor, Sir John Dorington, Sir George Barclay Bruce, Mr. de Bock Porter, Mr. Lewis, and Major-General Scott. The witnesses examined were Lieutenant-Colonel Mark Lockwood, M.P., and Mr. William Booth Bryan, the chairman of, and engineer to, the East London Waterworks Company.

Mr. BRYAN put in a statement as to their sources of supply and a brief description of the works of the company, a table giving a description of the engines and the capacity of the pumps at the various stations of the company, and a table showing the distribution of the capital expenditure of the company from the year 1880 to the year 1896. A description of the company's works has already been fully given in THE LANCET.[1] Mr. Bryan gives in a footnote to his tables some information as to the time during which pipes last. Mains have been dug up and found to be in a perfectly good condition after having been in the earth for upwards of 60 years. The chief accidents which occur to pipes are those produced by the effects of frost and it is found also that in some districts in which the ground has been artificially made up the mains have been injuriously affected by the local conditions. Apart from such accidents no period can be assigned as the proper "life of a main."

Colonel LOCKWOOD was cross-examined by Mr. BALFOUR BROWNE on behalf of the London County Council. Mr. Balfour Browne pointed out that Mr. Charles Greaves (a former engineer to the East London Company), in giving evidence on a Bill which was before Parliament in the year 1867, said that in the year 1864 they had found that the supply of water from the Lee was barely sufficient for their requirements. In that year there was "the greatest drought within the memory of any one." The company resolved to make application to Parliament for powers to take a supply from the Thames and to increase their storage capacity at Walthamstow. In 1867 before the Royal Commissioners on the Water-supply Mr. Greaves gave evidence to the effect that he thought that the company ought not to be entirely dependent on the Lee. He was of opinion that the Lee alone could not be depended upon for the supply of East London and he proposed to combine the Thames works and the Lee works and to use the reservoirs in the Lee Valley for the storage of Thames water should occasion require.

In answer to Mr. BALFOUR BROWNE the witness said that the East London Company were taking steps to obviate a water famine in the future and that the new work would involve a large expenditure. The works in contemplation provided for the supply of an increased population. With regard to the question of control the witness said that he would be willing that the water examiner appointed by the Local Government Board and the analyst should be admitted to the works of the company. He thought that the more publicity there was with regard to the companies' works the better it would be. The analyst, had, of course, access to the taps in East London, but the witness thought that he ought also to have a right to visit the works of the company. If the undertaking were bought by the London County Council that body might obtain profits on any new works which might be made for an increased population.

Major-General SCOTT pointed out that they would also have to take the risks.

Mr. BRYAN explained the conditions on which the East London Company takes water from the Lee and the way in which water is pumped up to the lower reaches of the Lee Navigation Canal during periods of drought.

The CHAIRMAN said that they had heard something about the pumping of polluted water from the lower reaches to the higher reaches. The witness explained that the company had a pumping station at Bromley Lock. At this point the tide passes through at high water and enters the Navigation Canal. The tide flows up as far as Old Ford Lock, at which place the upper pond is about eight feet higher than the lower and the tide can get no higher up the Navigation Cut. The tidal water, however, can pass round through "back rivers" higher up. The Lee Navigation is canalised and the tide can get no further than Old Ford. Barges go up the Lee Navigation through the artificial canal. They also go up certain "back rivers" to Stratford. The vessels go to Old Ford on the tide and there are gates which open with the tide at Bromley Lock. The barges come into the Navigation Canal on the tide and the gates are closed as soon as the tide begins to ebb. The traffic into the Thames then depletes or lowers the head of water in the Limehouse Cut. At this point the East London Company have put up a pumping station to raise water from the low level as the tide is rising in order to keep up the Navigation water to its proper head and to make up the loss caused by the lockage of barges going out into the Thames. The amount of water which the Conservators of the Lee have a right to take for the purposes of navigation is 5,400,000 gallons daily. This amount is made up partly by water pumped by the East London Company in the manner mentioned and partly by water which flows down the Lee Navigation. By pumping up the tidal water the company are enabled to take more water for the supply of their customers.

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[1] THE LANCET, May 1st, 8th, 15th, 22nd, and 29th, 1897.

Mr. DE BOCK PORTER asked whether the Lee Conservancy Board acquiesced in this arrangement. The witness replied that it was a statutory arrangement and that in the Act of Parliament there was a clause which enabled the company to pump from pound to pound and to provide part of the statutory quantity by this means.

In answer to Sir JOHN DORINGTON, the witness said that the company put up temporary pumps to raise the water from one pond to another. The water is pumped up beyond Tottenham Lock but never into the reach which supplies water from the intake of the company.

In answer to Sir JOHN DORINGTON the witness said that the water of the Lee runs down the Navigation and is not under the control of the East London Company.

The witness explained to the Commissioners exactly how the water was pumped and pointed out on a map the situation of the various places to which he referred. Briefly the evidence amounted to this: The East London Company pump from the old tidal channel of the river Lee into the Lee Navigation at Bromley Lock; they occasionally pump at Old Ford Lock which is slightly higher up the Navigation channel. This water flows into the Bottom Pound Lock and the reach into which the water is pumped is four miles in length and extends to Tottenham. Above Tottenham water is pumped into the Navigation channel. The water so pumped does not go beyond Stone Bridge Lock. No brackish water is pumped to any place through which it could pass to the intake of the company near Enfield Mill. The pumping station near Bromley Lock is a permanent station; at other places the pumping is effected by portable engines.

In answer to the CHAIRMAN the witness said that during the water famine of last year there was a great deal of wilful waste and the company received a large number of letters from their customers calling attention to the waste in different places and asking them to put a stop to it. On the other hand, the company received letters from people saying that they would allow the water to run away in order "to spite them."

The CHAIRMAN said that this was a serious statement and Mr. PEMBER suggested that the letters should be produced. The witness said he had none with him but that they could be produced.

Sir JOHN DORINGTON asked the witness whether he agreed with Sir Alexander Binnie's inference that powers granted by corporations could not safely be given to water companies with regard to measures for the prevention of waste of water, and with regard to powers for testing the fittings which were used by the water consumers The witness said that in one of their bills they had inserted clauses copied from the Manchester Corporation Waterworks Acts which dealt with these matters. The local authorities in whose districts the company gave their supply strongly objected to this supervision and the clause was therefore withdrawn.

In answer to Sir JOHN DORINGTON the witness said that the local authorities thought that the company was trying to get too much power into their own hands. He did not know, however, whether the local authorities themselves would have been inclined themselves to exercise such powers on behalf of the company had they been entrusted to them.

In answer to Mr. FREEMAN, who cross-examined on behalf of the London County Council, the witness said that the Lee Conservators had power over the water of the river and took what they wanted. He could not say what amount of water was actually taken by the Conservators for the purposes of navigation. He was unable to say how much was pumped up into the lower reaches of the river. The pumps used were centrifugal pumps and it was not possible to estimate what the amount pumped actually was. The Navigation water was kept up to its proper level and the pumping arrangements were made to effect this. When the right height of water was obtained pumping operations ceased.

Lord ROBERT CECIL cross-examined on behalf of the Hertfordshire County Council, and asked some questions about the wells.

The CHAIRMAN said that the Commissioners had "nothing to do with deciding whether or not the New River Company and the East London Company are injuring wells and springs in Hertfordshire."

Lord ROBERT CECIL contended that the case for Hertfordshire was that the supply in that county had already been drawn upon more than the supplies from the heavens warranted. If the chairman told him that the Commission would safeguard the interests of Hertfordshire he would not wish to examine further.

The CHAIRMAN said: We have nothing to do with the interests of Hertfordshire, you must take care of yourselves.

Lord ROBERT CECIL said: It is very material to Hertfordshire and it is very material for the supply of water to London.

The CHAIRMAN said: We are not inquiring into the supply of water to London but into the expediency of transferring the supply of water to London from the companies to a purchaser.

The forty-ninth sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Feb. 6th. The Chairman (Lord Llandaff) and all the Commissioners were present. The witnesses examined were Mr. Isaac A. Crookenden, secretary of the East London Waterworks Company, and Sir Henry Knight, chairman of the Southwark and Vauxhall Company. Supplemental papers referring to the East London Waterworks Company's financial state were put in. Sir Henry Knight put in tables referring to the financial state of the Southwark and Vauxhall Company.

At the commencement of the proceedings Mr. PEMBER, Q.C., on behalf of the East London Company, made a statement with regard to the statistics which had been put in referring to the probable increase in the population of the district within the company's area of supply. Three different estimates had been made. Lord Balfour's Commission had suggested that the decennial increase of the district would be 25 8 per cent., and if this proved correct in the year 1937 the population would amount to 3,165,445. At an average daily supply per individual of 35 gallons, 110,790,000 gallons of water a day would be required and the cost of the work necessary to carry out this was estimated at £4,238,000. The directors of the East London Company, however, found that the increase of the population had been 17·1 between the years 1886 and 1896, and they therefore thought that the estimates made by the Balfour Commission were in excess of the amount of population which they would probably be called upon to supply.

Mr. CROOKENDEN, in answer to the CHAIRMAN, explained how the estimate of a decennial increase had been obtained and, in answer to further questions, said that between the years 1891 and 1898 the population had increased at the rate of 22 65 per cent.

The CHAIRMAN pointed out that as the average increase of the population of the East London Company's area had been higher than the average of 18 2, which was the estimate given by Lord Balfour's Commission for the whole of London, it did not seem safe to take that average as a basis for future calculations of the East London Company's district.

Mr. BALFOUR BROWNE cross-examined the witness with regard to the profits made by the company immediately before the water famine of last year and asked for an explanation of how it was that the expenses had been reduced and the profits at the same time increased. The witness pointed out that the expenses of 1896 were larger than those of 1897, because in the former year a considerable outlay had been caused by repairing the damage done by the frost of the year 1895.

The witness gave some particulars with regard to the profits recently made by the East London Company. He had not come with the figures worked out and as Mr. Pember on behalf of the East London Company had to correct the figures at a subsequent meeting of the Royal Commissioners it is useless to publish them. [Mr. Pember explained at the fiftieth sitting held on Feb. 7th, that Mr. Crookenden was unwell when he gave his evidence.]

Mr. BALFOUR BROWNE asked the Chairman to what decision the Commissioners had come with regard to addresses by counsel at the conclusion of their reception of evidence. He contended that the counsel for the companies should first address the Commissioners and that he should have the final right to reply.

Mr. LITTLER, Q.C., and Mr. PEMBER, Q.C., on behalf of the water companies, strongly objected to this method of procedure and the CHAIRMAN remarked that the Commissioners might possibly be driven to exercise their prerogative and not hear counsel at all.

Mr. PEMBER expressed a hope that counsel would be allowed to speak. Mr. BALFOUR BROWNE was content to leave the evidence in the hands of the Commissioners.

The CHAIRMAN said that he was unable to decide from the evidence whether the London County Council were desirous that the Commissioners should advise purchase on the ordinary terms of arbitration or whether they wished the Commissioners to find that purchase would be expedient only on certain special terms. In this condition of uncertainty it would, he said, be more convenient had the representatives of the London County Council spoken first, but as they claimed to be heard last as a matter of right on the analogy of Parliamentary committees the Commissioners had decided that the London County Council had such a right and it would therefore be necessary for the counsel representing the water companies to give their arguments in what he termed alternative form, forecasting as best they could the views which the London County Council might represent. The Chairman added that the question as to who spoke first or last would not in any way influence the Commissioners.

Mr. BALFOUR BROWNE said that he thought the question as to whether the London County Council wished to buy the companies only on the condition of obtaining special terms should be referred to his clients and that he would make a statement upon the subject before counsel for the water companies made their speeches.

Sir HENRY KNIGHT, chairman of the Southwark and Vauxhall Company, took a cheerful view of the company in which he was interested. Their maximum dividend of 10 per cent., he thought, was "immediately in sight." He did not think that the purchase of the water companies would be an advantage to the water consumers of London, because under the sinking fund clauses which were now in force when further capital was raised by the companies the people of London would ultimately become possessed of all the undertakings without paying for them.

In answer to the CHAIRMAN who asked whether it would take one, two, or three centuries to accomplish this object the witness said that he had not made any calculation. He gave it as his opinion that an equalisation of the water rents throughout London would be unfair to the poorer customers, and he further gave it as his opinion that he thought it right that notwithstanding the failure to give a constant supply by the East London Company that company ought not to suffer financially for their default.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Derbyshire County District.—The annual report for 1897 on the health of this district has but recently reached us, and at a time when the reports for 1898 are making their appearance. This delay in the issue of reports is distinctly to be regretted and we think that all medical officers of health of whatever standing should use every effort to expedite the issue of their reports. The estimated population of Derbyshire at the middle of 1897 was 474,015—i.e., rather less than the population of Birmingham at the last census. The county birth-rate was 32·67 and the general death-rate was 16·27 per 1000. As regards infectious diseases we note that the death-rate from enteric fever for 1897 is considerably in excess of that of England and Wales, the chief cause of this prevalence being regarded as polluted soil, and Dr. Sidney Barwise in his report strongly urges the abolition of privies and the substitution of the water-carriage system. In the matter of tuberculosis an example has been set to the county by the late Lord Vernon who remodelled two farms in such a manner that each cow has 800 cubic feet of air space and proper regard is paid to warming and ventilati As a result of the tuberculin test no less than 54 per cent. the cows on the estate were found to be tuberculous. Th latter were isolated and fed up for slaughter whilst remainder were very wisely removed to new cowshe Each farm is furnished with a refrigerator and a centrifu machine through which the milk is passed after milki It is then by means of machinery which dispenses with manipulation decanted into bottles and heated up to 186 After being suddenly cooled and left for two hours with object of allowing the conversion of spores into bac the milk is completely sterilised by being heated for minutes at a temperature of 212° F. The bottles are th hermetically closed automatically and rapidly cooled. cordially endorse Dr. Barwise's hope "that the increas price which the milk realises will be sufficient to indu other landowners to follow the example set by Lord Verno

Maldon Rural District.—As usual, Dr. Thresh is settin good example by the early issue of his annual report for 18 on the sanitary condition of this district. The drought last summer has not been an unmixed evil as it has broug home to the inhabitants of certain parts of this district wh it means to have their springs dried up during the hot weath They are now adopting a different attitude towards I Thresh's schemes for water-supply than was formerly the ca Complaints are still heard in this district as to the nuisan caused by the unloading and carting of London manure a it is satisfactory to hear that henceforth the business will duly regulated by by-laws drawn up for the purpo The "Peculiar People" have not yet ceased to be pecul in the sense that they decline to seek medical advice in ca of illness, and hence infectious disease amongst them is n brought to light. It was, however, recently decided in t High Court that failure to seek medical assistance co stitutes "neglect" in the eyes of the law and Dr. Thre trusts that there may be relief from the present unsat factory state of affairs under this decision. By way assistance to medical men in the diagnosis of phthi Dr. Thresh in his capacity of county medical officer of heal undertakes the bacteriological examination of sputum at l laboratory. For poor patients the charge is *nil*; for othe a nominal fee of 2*s.* 6*d.* is charged. Dr. Thresh apparent looks to educational rather than to legislative measures diminish the death-rate from tuberculous disease.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6717 births ar 4275 deaths were registered during the week endin Feb. 4th. The annual rate of mortality in these town which had declined in the four preceding weeks from 19 to 17·0 per 1000, rose again last week to 19·5. London the rate was 19·4 per 1000, while it averag 19·7 in the 32 provincial towns. The lowest death-rat in these towns were 11·0 in Croydon, 13·1 in Brighto and in Huddersfield, 14·3 in Norwich, and 14·5 in Hull; th highest rates were 23·5 in Newcastle-upon-Tyne, 24·5 Gateshead, 25·2 in Liverpool, and 27·2 in Sunderland. Th 4275 deaths in these towns included 340 which were referr to the principal zymotic diseases, against 380 and 329 the two preceding weeks; of these, 98 resulted from whoo ing-cough, 87 from diphtheria, 64 from measles, 34 fro "fever" (principally enteric), 31 from scarlet feve and 26 from diarrhœa. No death from any of the diseases was recorded last week in Norwich; in the oth towns they caused the lowest death-rates in Croydo Brighton, Birkenhead, and Newcastle-upon-Tyne, and th highest rates in Preston, West Ham, Sheffield, and Bolto The greatest mortality from measles occurred in Ma chester, Oldham, and Bolton; and from whooping-cough Bristol, Swansea, Nottingham, Preston, Halifax, and Gate head. The mortality from scarlet fever and from "fever showed no marked excess in any of the large towns. Th 87 deaths from diphtheria included 32 in London, nine Leeds, eight in Sheffield, six in West Ham, five Birmingham, five in Leicester, five in Liverpool, and thr in Portsmouth. No fatal case of small-pox was register last week in any of the 33 large towns, and no smal pox patients were under treatment in any of the Metr politan Asylums Hospitals. The number of scarlet fev patients in these hospitals and in the London Fev

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JANUARY, 1899

(*Specially compiled for* THE LANCET.)

SANITARY AREAS	Estimated population in the middle of 1899	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES											Deaths from all causes.	Death rate per 1000 living	Deaths of infants under one year to 1000 births
		Small pox	Scarlet fever	Diphtheria *	Typhus fever	Enteric fever	Other continued fevers	Puerperal fever	Erysipelas	Cholera	Total	Annual rate per 1000 persons living	Small pox	Measles	Scarlet fever	Diphtheria †	Whooping cough	Typhus fever	Enteric fever	Other continued fevers	Diarrhœa	Total	Annual rate per 1000 persons living			
LONDON	4 546 752	2	1370	991	1	307	8	23	517		3221	9·2	—	105	43	125	154	—	55	—	42	520	1·5	5916	17·0	112
West Districts.																										
Paddington	128 794	—	25	28	—	7	—	—	14	—	74	7·5	—	—	1	4	9	—	—	—	2	16	1·6	163	16·5	123
Kensington	172 809	—	26	30	—	8	1	1	28	—	84	6·5	—	—	1	3	3	—	2	—	1	10	0·8	225	17·0	135
Hammersmith	108,785	—	26	14	—	6	—	—	10	—	56	7·2	—	—	1	1	5	—	2	—	—	9	1·1	134	16·1	118
Fulham	130 [illegible]20	—	68	46	—	6	—	1	36	—	157	13·[illegible]	—	—	3	2	2	—	3	—	—	10	1·0	141	14·1	98
Chelsea	96 721	—	17	20	—	5	1	1	15	—	63	8·5	—	1	1	6	21	—	1	—	—	30	4·0	143	19·3	152
St. George Hanover-square	80 876	—	13	13	—	5	—	—	15	—	46	7·4	—	—	1	2	—	—	1	—	—	4	0·6	88	14·2	119
Westminster	52,117	—	1	6	—	4	—	—	7	—	18	4·5	—	—	—	—	—	—	1	—	1	2	0·5	72	18·0	106
St. James Westminster	21 877	—	—	—	—	6	—	—	2	—	8	4·3	—	—	—	—	—	—	2	—	—	2	1·2	31	18·5	65
North Districts.																										
Marylebone	140 139	—	20	13	—	8	—	1	20	—	62	5·8	—	1	1	4	3	—	3	—	2	14	1·3	180	16·7	116
Hampstead	80 252	—	18	4	—	2	—	—	4	—	28	4·5	—	—	—	1	—	—	—	—	1	2	0·3	62	10·1	143
St. Pancras	234 548	—	70	32	—	16	—	1	27	—	146	7·8	—	11	4	10	14	—	2	—	4	45	2·4	351	18·7	116
Islington	343 095	—	106	43	—	26	—	1	26	—	202	7·6	—	7	1	4	13	—	2	—	2	29	1·1	416	15·6	113
Stoke Newington	35 187	—	15	2	—	1	—	—	—	—	18	6·7	—	1	—	1	—	—	—	—	—	2	0·7	30	11·1	15
Hackney	222 571	—	68	44	—	16	—	1	28	—	157	9·2	—	3	—	6	6	—	2	—	3	20	1·2	236	13·8	103
Central Districts.																										
St. Giles	37 196	—	3	1	—	1	—	—	3	—	8	2·8	—	1	—	—	—	—	1	—	—	2	0·7	60	21·0	103
St. Martin in the-Fields	12,142	—	2	2	—	—	—	—	—	—	4	4·3	—	—	—	—	—	—	—	—	1	1	1·1	13	14·0	182
Strand	23 016	—	1	4	—	1	—	—	—	—	6	3·4	—	—	—	—	—	—	—	—	—	—	—	38	21·5	154
Holborn	29 621	—	8	10	—	4	—	—	2	—	24	10·6	—	—	—	2	—	—	—	—	2	4	1·8	54	23·8	167
Clerkenwell	66 063	—	23	12	—	6	—	—	5	—	45	9·1	—	4	1	2	1	—	2	—	—	10	2·0	94	18·6	73
St. Luke	40 868	—	14	8	—	5	—	—	5	—	32	10·2	—	1	1	1	—	—	—	—	—	5	1·6	79	25·2	81
City of London	27 906	—	6	6	—	19	—	—	3	—	34	15·8	—	—	—	1	—	—	—	—	—	1	0·5	47	21·9	97
East Districts.																										
Shoreditch	121 071	—	15	15	—	6	3	1	17	—	57	6·1	—	12	1	5	2	—	2	—	—	22	2·4	169	20·4	93
Bethnal Green	128 933	—	33	30	—	7	—	2	39	—	110	11·1	—	15	1	3	1	—	4	—	3	27	2·7	207	20·9	131
Whitechapel	81 [illegible]91	—	[illegible]	13	—	6	—	—	3	—	36	5·3	—	7	1	1	2	—	1	—	1	13	2·1	139	22·3	99
St. George-in-the-East	49 600	—	7	5	—	4	—	—	6	—	22	5·9	—	3	—	1	1	—	2	—	—	7	1·9	88	23·6	143
Limehouse	58,207	—	9	19	—	7	—	1	10	—	46	10·2	—	2	—	1	2	—	1	—	—	6	1·3	73	16·2	110
Mile End Old Town	113 161	—	17	28	—	11	—	1	12	—	69	7·9	—	11	—	5	—	—	2	—	—	18	2·1	167	19·2	135
Poplar	170 626	—	34	31	—	20	1	—	19	—	105	8·0	—	6	1	2	5	—	—	—	1	15	1·1	256	19·6	112
South Districts.																										
St. Saviour Southwark	24 207	—	4	13	—	—	—	—	7	—	24	12·9	—	—	—	2	—	—	1	—	1	4	2·1	46	24·8	210
St. George Southwark	60 526	—	14	25	—	1	—	—	10	—	50	10·8	—	1	1	3	3	—	—	—	1	9	1·9	107	23·0	127
Newington	124 166	—	29	58	—	6	—	1	25	—	117	12·3	—	8	—	10	23	—	2	—	4	47	4·9	245	25·7	188
St. Olave Southwark	11 098	—	2	1	—	—	—	—	—	—	3	3·5	—	—	—	—	—	—	—	—	—	—	—	16	18·8	—
Bermondsey	85 855	—	39	22	—	5	—	—	6	—	72	10·9	—	2	—	7	—	—	—	—	2	11	1·7	176	20·7	151
Rotherhithe	41 050	—	19	3	—	6	—	1	6	—	35	11·1	—	—	2	—	1	—	—	—	—	3	1·0	57	18·1	117
Lambeth	308 103	—	97	98	—	17	1	5	27	—	245	10·4	—	—	3	10	6	—	7	—	1	27	1·1	384	16·7	104
Battersea	174 976	—	53	83	—	12	—	1	16	—	165	12·3	—	4	2	4	1	—	1	—	—	12	0·9	190	14·2	119
Wandsworth	209 655	—	131	47	—	7	—	2	24	—	211	13·1	—	—	3	7	13	—	3	—	1	27	1·7	216	13·4	81
Camberwell	264 817	—	73	65	1	9	—	—	23	—	171	8·4	—	3	3	5	12	—	—	—	4	27	1·3	312	15·4	95
Greenwich	182 513	1	120	29	—	10	—	1	30	—	200	14·3	—	1	2	2	2	—	2	—	1	10	0·7	208	14·9	99
Lewisham (excluding Penge)	91 097	—	13	30	—	7	1	2	4	—	57	8·2	—	—	—	4	—	—	1	—	3	8	1·1	96	13·8	102
Woolwich	41 [illegible]42	—	28	14	—	1	—	—	1	—	44	13·8	—	—	1	2	1	—	—	—	—	4	1·3	53	16·6	71
Lee	40 219	—	27	5	—	1	—	—	1	—	34	11·0	—	—	—	1	—	—	—	—	—	1	0·3	30	9·7	42
Plumstead	64 031	—	61	24	—	2	—	—	5	—	92	18·7	—	—	2	—	2	—	—	—	—	4	0·8	64	13·0	95
Port of London	—	1	1	—	—	1	—	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 32 cases of membranous croup.

† Including deaths from membranous croup.

Hospital on Saturday last, Feb. 4th, was 2665, against numbers declining from 2939 to 2679 at the end of the five preceding weeks; 265 new cases were admitted during last week, against 220, 249, and 220 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 295 and 266 in the two preceding weeks, rose again last week to 348, but were 136 below the average. The causes of 70, or 1·6 per cent., of the deaths in the 33 towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Cardiff, Nottingham, Salford, Oldham, and in nine other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Blackburn, Preston, and Halifax.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 21·3 and 22·1 per 1000 in the two preceding weeks, further rose to 28·4 during the week ending Feb. 4th, and exceeded by as much as 8·9 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 16·9 in Perth and 19·7 in Dundee to 32·5 in Greenock and 33·2 in Glasgow. The 866 deaths in these towns included 43 from whooping-cough, 20 from diarrhœa, 16 from measles, seven from scarlet fever, seven from diphtheria, and two from "fever." In all, 95 deaths resulted from these principal zymotic diseases, against 94 and 78 in the two preceding weeks. These 95 deaths were equal to an annual rate of 3·1 per 1000, which was 1·5 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough which had declined from 35 to 30 in the three preceding weeks, rose again to 43 last week, of which 25 occurred in Glasgow, 11 in Edinburgh, and three in Leith. The 16 deaths referred to measles exceeded by one the number in the preceding week, and included nine in Aberdeen and six in Edinburgh. The fatal cases of scarlet fever, which had been six and 14 in the two preceding weeks, declined again to seven last week, of which five occurred in Glasgow and two in Edinburgh. The deaths from diphtheria which had been nine in each of the two preceding weeks declined to seven last week, and included three in Glasgow and two in Aberdeen. The two fatal cases of "fever" were recorded in Aberdeen. The deaths referred to diseases of the respiratory organs in these towns, which had been 153 and 161 in the two preceding weeks, further rose to 282 last week, and were 165 above the number in the corresponding period of last year. The causes of 52, or nearly 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28·6 and 24·9 per 1000 in the two preceding weeks, rose again to 31·8 during the week ending Feb. 4th. During the past four weeks the death-rate in the city has averaged 28·1 per 1000, the rate during the same period being 17·6 in London and 24·2 in Edinburgh. The 213 deaths registered in Dublin during the week under notice showed an increase of 46 upon the number in the previous week, and included 10 which were referred to the principal zymotic diseases, against 10 and 11 in the two preceding weeks; of these, four resulted from diarrhœa, three from whooping-cough, two from scarlet fever, one from "fever," and not one either from small-pox, measles, or diphtheria. These 10 deaths were equal to an annual rate of 1·5 per 1000, the zymotic death-rate during the same period being 1·5 in London and 4·0 in Edinburgh. The fatal cases of whooping-cough, which had increased from three to five in the three preceding weeks, declined again to three last week. The two deaths referred to scarlet fever exceeded the number recorded in any recent week; while the mortality from whooping-cough showed a marked decline from that recorded in recent weeks. The 213 deaths in Dublin last week included 40 of infants under one year of age and 65 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons considerably exceeded the numbers registered in any recent week. Eight inquest cases and five deaths from violence were registered; and 67, or nearly a third, of the deaths occurred in public institutions. The causes of 25, or nearly 12 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING JANUARY, 1899.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality during January in each of the 43 sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 9·2 per 1000 of the population, estimated at 4,546,752 persons in the middle of this year. In the three preceding months the rates had been 11·5, 10·8, and 9·5 per 1000 respectively. The rates were considerably below the average in Westminster, Hampstead, St. Giles, St. Martin-in-the-Fields, Strand, and St. Olave Southwark; while they showed the largest excess in Fulham, City of London, St. Saviour Southwark, Newington, Battersea, Wandsworth, Greenwich, Woolwich, and Plumstead sanitary areas. Only two cases of small-pox were notified in London during January (one in Greenwich and one in the Port of London), and only one small-pox patient was under treatment last month in the Metropolitan Asylums Hospitals. The prevalence of scarlet fever in London showed a slight increase upon that recorded in the preceding month; among the various sanitary areas this disease showed the highest proportional prevalence in Fulham, Bermondsey, Rotherhithe, Wandsworth, Greenwich, Woolwich, Lee, and Plumstead. The Metropolitan Asylums Hospitals contained 2637 scarlet fever patients at the end of January, against 2977, 3090, and 2883 at the end of the three preceding months; the weekly admissions averaged 239, against 350, 288, and 239 in the three preceding months. The prevalence of diphtheria in London during January showed a slight further decline from that recorded in recent months; this disease was proportionally most prevalent in Fulham, Limehouse, St. Saviour Southwark, St. George Southwark, Newington, Battersea, and Plumstead sanitary areas. There were 1358 diphtheria patients under treatment in the Metropolitan Asylums Hospitals at the end of January, against 1182, 1269, and 1239 at the end of the three preceding months; the weekly admissions averaged 166, against 172 and 173 in the two preceding months. The prevalence of enteric fever in London showed a further marked decline from that recorded in the two preceding months; among the various sanitary areas this disease showed the highest proportional prevalence in St. James Westminster, Holborn, St. Luke, London City, Limehouse, Poplar, and Rotherhithe. The Metropolitan Asylums Hospitals contained 249 enteric fever patients at the end of January, against 223, 286, and 255 at the end of the three preceding months; the weekly admissions averaged 34, against 41, 45, and 36 in the three preceding months. Erysipelas was proportionally most prevalent in St. George Hanover-square, Bethnal Green, Limehouse. St. Saviour Southwark, Newington, and Greenwich sanitary areas. The 25 cases of puerperal fever notified in London during January included five in Lambeth, two in Bethnal Green, two in Wandsworth, and two in Lewisham sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the institutions of London having been distributed among the various sanitary areas in which the patients had previously resided. During the four weeks ending Saturday, Jan. 28th, the deaths of 5946 persons belonging to London were registered, equal to an annual rate of 17·0 per 1000, against 17·3, 16·3, and 16·9 in the three preceding months. The lowest death-rates in the various sanitary areas were 9·7 in Lee, 10·1 in Hampstead, 11·1 in Stoke Newington, 13·0 in Plumstead, 13·4 in Wandsworth, 13·8 in Hackney and in Lewisham, and 14·1 in Fulham; the highest rates were 21·9 in City of London, 22·3 in Whitechapel, 23·0 in St. George Southwark, 23·6 in St. George-in-the-East, 23·8 in Holborn, 24·8 in St. Saviour Southwark, 25·2 in St. Luke, and 25·7 in Newington. During the four weeks of January 520 deaths were referred to the principal zymotic diseases in London; of these, 105 resulted from measles, 39 from scarlet fever, 125 from diphtheria, 154 from whooping-cough, 55 from enteric fever, and 42 from diarrhœa, but not one either from small-pox, typhus, or any ill-defined form of continued fever. These 520 deaths were equal to an annual rate of 1·5 per 1000, against 1·5 and 1·7 in the two preceding months. No death from any of these zymotic diseases was recorded last month in Strand or in St. Olave Southwark; in the other sanitary areas they caused the lowest death-rates in St. George Hanover-square, Westminster, Hampstead, Stoke Newington, St. Giles, City of London, and Lee; and the highest rates in Chelsea, St. Pancras, Shoreditch, Bethnal Green, Whitechapel, Mile End Old Town, St. Saviour Southwark, and Newington. The 105 fatal cases of measles were as many as 157 below the corrected average number in the corresponding periods of the 10 preceding years; this disease showed the highest proportional fatality in Clerkenwell, Shoreditch, Bethnal Green, Whitechapel, Mile End Old Town, and Newington sanitary areas. The 39 deaths referred to scarlet fever were just half the corrected average number; among the various sanitary areas this disease was proportionally most fatal in Fulham, Rotherhithe, and Plumstead. The 125 fatal cases of diphtheria were 44 below the corrected average number; this disease showed the highest proportional fatality in Chelsea, Holborn, Shoreditch, Whitechapel, Mile End Old Town, St. Saviour Southwark, Newington, and Bermondsey sanitary areas. The 154 deaths from whooping-cough were 125 below the corrected average number; among the various sanitary areas this disease was proportionally most fatal in Paddington, Chelsea, St. George Southwark, and Newington. The 55 fatal cases of enteric fever were 11 above the corrected average number; this disease showed the highest proportional fatality in St. James Westminster, Clerkenwell, St. Luke, Bethnal Green, and St. George-in-the-East sanitary areas. The 42 deaths from diarrhœa were 13 below the average. In conclusion, it may be stated that the aggregate mortality in London last month from these principal zymotic diseases was more than 41 per cent. below the average.

Infant mortality in London during January, measured by the proportion of deaths of children under one year of age to registered births, was equal to 112 per 1000, and was considerably below the average. Among the various sanitary areas the lowest rates of infant mortality were recorded in St. James Westminster, Stoke Newington, Newington, Clerkenwell, St. Olave Southwark, Woolwich and Lee; and the highest rates in Chelsea, St. Martin-in-the-Fields, Strand, Holborn, St. Saviour Southwark, and Newington.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are announced:—Staff Surgeons: E. J. Biden to the *Orlando*; W. M. Lory to the *Aurora*; E. C. Ward to the *Penguin*; and B. O. E. F. Gunn to the *Repulse*. Surgeons: E. S. Reid to the *Orlando*; E. F. Power to the *Aurora*; R. St. G. S. Bond to the *Collingwood*; G. Hewlett to the *Comus*; A. W. Campbell to the *Royal Arthur*; and T. Austen to the *Wildfire* for Sheerness Yard.

ROYAL ARMY MEDICAL CORPS.

Major R. Kirkpatrick proceeds to Fort George for duty, vice Lieutenant J. S Gallie, who has been ordered to Maryhill. Major M. W. H. Russell is posted to the Western Heights, Dover, for duty. Captain H. J. M. Buist joins at Woolwich. Captain J. H. Rivers, in medical charge, Station Hospital, Purandhar, will, on his departure to Cairo for service with the Egyptian Army, be relieved by Lieutenant A. H. Morris.

Captain Julian P. S. Hayes to be Major and Captain Robert Caldwell to be Major The under-mentioned Lieutenants to be Captains: Frederick S Brereton, John C. B. Statham, Robert M. Le H. Cooper, Edwin C. Hayes, Percy J. Probyn, Anthony H. Waring, Arthur W. Hooper, William A. Ward, and Edmund G. Forrest.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant Alic Phillips, the Manchester Companies, Volunteer Medical Staff Corps, to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Artillery: 4th Durham (Western Division, Royal Artillery): Robert Hanton to be Surgeon-Lieutenant. 1st Midlothian: William Macrae Taylor to be Surgeon-Lieutenant. *Rifle*: 1st Volunteer Battalion the Prince of Wales's Own (West Yorkshire Regiment): Surgeon-Lieutenant A. R. Stoddart to be Surgeon-Captain. 1st Volunteer Battalion, the Lancashire Fusiliers: Surgeon-Lieutenant A. P. Nuttall to be Surgeon-Captain. 4th Volunteer Battalion the Cheshire Regiment: Surgeon-Lieutenant E. J. Weightman resigns his commission. 24th Middlesex: Surgeon-Lieutenant C. R. Handfield-Jones to be Surgeon-Captain. 1st Volunteer Battalion the Duke of Cambridge's Own (Middlesex Regiment): William Norman Evans to be Surgeon-Lieutenant. 13th Middlesex (Queen's Westminster): Charles Arthur Morris to be Surgeon-Lieutenant. 2nd Volunteer Battalion, the Highland Light Infantry: Archibald Neville McLellan, to be Surgeon-Lieutenant. 9th Lanarkshire: James Craik Taylor to be Surgeon-Lieutenant.

VOLUNTEER MEDICAL STAFF CORPS.

The London Companies: Surgeon-Captain F. J. L. Warwick, from the 1st Tower Hamlets Volunteer Rifle Corps, to be Surgeon-Captain.

VOLUNTEER OFFICERS' DECORATION.

The Queen has conferred the Volunteer Officers' Decoration upon the undermentioned officers of the Volunteer Force:—*North-Eastern District*: *Rifle*: 1st Volunteer Battalion the Northumberland Fusiliers: Surgeon-Captain John Peter Elliot. 2nd Volunteer Battalion the Northumberland Fusiliers: Surgeon-Lieutenant-Colonel Hugh Frazer Hurst, retired. *Scottish District*: *Rifle*: 8th Volunteer Battalion the Royal Scots (Lothian Regiment): Surgeon-Lieutenant-Colonel John Stewart Muir. *Southern District*: *Rifle*: 3rd (Duke of Connaught's Own) Volunteer Battalion the Hampshire Regiment: Surgeon-Major Charles Knott. *Western District*: *Rifle*: 3rd Volunteer Battalion the Welsh Regiment: Surgeon-Lieutenant-Colonel Evan Jones.

THE FIGHTING AT MANILA.

The rapid current of events has compelled the Americans to "take up the white man's burden" and face the consequences of the obligations and responsibilities which they have incurred by their war with Spain. That the United States will manfully accept the position caused by the abolition of Spanish rule and influence does not admit of doubt, especially now that the boldness of the Filipino insurgents has by challenging the military and naval forces at Manila thrust this duty upon the American Government. From the information which has already been published it is clear that the recent fighting at Manila was of a severe character; that the American troops behaved with their accustomed gallantry; and that the insurgents were badly defeated and driven back with a very considerable loss. The fighting took place last Saturday and Sunday and was on an extended scale After a fierce encounter the Californian Regiment drove the rebels out of their stronghold at Paco. It is estimated that the insurgent losses amounted to 4000 killed and wounded and that the casualties on the American side were about 175, of whom 40 were killed. The total American force in and around Manila amounts to 15,000 or 20,000 men. Of this number it is reported that some 2500 are in hospital suffering from typhoid fever, small-pox, dysentery, and other diseases incidental to service in that climate. It is said that many soldiers of the American Volunteer force, unused to all the discomforts of field service, are sick of the war and longing to return to their homes. Strong reinforcements are on their way from the States and although the task of reducing the insurgent native population to law and order may prove a longer and more difficult task than was anticipated there is no doubt whatever that it must and will be accomplished.

THE HEALTH OF THE NAVY.

The returns of 1897 for the total force serving afloat may be regarded on the whole as very satisfactory. The death-rate of the total force—viz., 5·23 per 1000—is 0·05 less than that of the previous year, and 1·62 below the ten years' average. It is also the lowest recorded since 1856. The invaliding rate, however, shows an increase of 1·62 per 1000 over that of 1896 and of 5·44 when compared with the average ratio for the last ten years. Four cases of yellow fever are reported from the North American and West India Station, resulting in one invaliding and in three deaths. No case of bubonic plague is returned. There has been a considerable increase in the number of cases of enteric fever on the Mediterranean Station, chiefly contributed to by an outbreak of the disease which occurred on board the *Forte* at Phalerum Bay. The ratio per 1000 of cases of primary and constitutional syphilis shows a slight increase when compared with 1896. Contrasted with the average ratios of the last ten years there is an increase in the latter but a decrease in the former of 5·39 per 1000, and a slight decrease is also apparent in those of gonorrhœa and its sequelæ. The total force in the service afloat, corrected for time, in the year 1897, was 80,540 officers and men, of whom 47,720, or 59·25 per cent., were between the ages of 15 years and 25 years; 23,740, or 29·47 per cent., were between the ages of 25 years and 35 years; 7650, or 9·49 per cent., were between the ages of 35 years and 45 years; and 1430, or 1·77 per cent., were 45 years of age and upwards. The total number of cases of disease and injury entered on the sick-list was 72,068, which is in the ratio of 894·81 per 1000, being a decrease, compared with the previous year, of 16·26 per 1000, and of 71·32 per 1000 when compared with the average ratio of the last ten years.

THE RUSSIAN GARRISON AT PORT ARTHUR.

It is reported that information has reached the Russian War Office of the grave prevalence of sickness, attended with much mortality, among the Russo-Chinese force at Port Arthur. During November and December last, the correspondent of the *Standard* states, there were 215 deaths and the average mortality was at the time he telegraphed about four daily. The strength of the force is not, however, given and the rates of sickness and mortality cannot consequently be calculated. The bad quality of the water-supply is blamed for much of the sickness.

INFLUENZA ON THE TRAINING-SHIP "ST. VINCENT."

There has been a somewhat extensive outbreak of influenza on the training-ship *St. Vincent* at Portsmouth and a large number of boys are on the sick-list, some of whom have been sent to Haslar Hospital.

Inspector-General of Hospitals Warburton who is greatly respected and is leaving India previously to his retirement from the Indian Medical Service was recently entertained at a farewell banquet at the United Service Club, Lucknow, by the officers of the medical service of the united provinces and presented with an album containing photographs of the donors.

The following officers of the Royal Army Medical Corps have proceeded to Egypt from India for duty with the Egyptian army: Captain H. A. Bray, Captain J. H. Rivers, Lieutenant W. E. Hudleston, Lieutenant S. L. Cummins, and Lieutenant H. G. F. Stallard.

The long-talked-of swimming bath for the use of the troops at Aldershot will soon, we understand, be taken in hand. The bath will be fitted with every modern convenience and there will also be private baths, hot baths, &c.

Correspondence.

"Audi alteram partem."

INFANTILE MORTALITY AND ITS PREVENTION.

To the Editors of THE LANCET.

SIRS,—The success of the movement recently inaugurated for the prevention of consumption and other forms of tuberculosis makes one think that something might likewise be done to prevent the infantile mortality which you so truly say in your issue of Nov. 20th is "a scandal to the municipal authorities and to the State." The figures which you quote in regard to Manchester are appalling, but unfortunately they are little worse than what may be found in any of our other large towns. In Scotland in 1894 (the year for which I have figures at hand) nearly one-fourth of the total number of deaths occurred in children under one year. In Glasgow (same year) the death-rate for all ages was 2·35 per cent., while for children under one year it was 17·65 per cent. In Dundee and Aberdeen the death-rate for those of one year was even higher, being over 20 per cent. in both cities. It is needless to quote more figures for it is sufficiently evident and sufficiently well known that our country loses as many citizens by its high infantile mortality as it does by harbouring in its midst the various forms of tuberculosis.

Of course it may be urged that a high mortality during the first year of life is unavoidable and that in spite of numerous sanitary reforms the infantile mortality is just about as great to-day as it was 30 years ago. That may be true. But it is also true that the death-rate of children under one year is nearly twice as great in town districts as in rural districts and in some of the poorer-class town districts four times as great as in the better-class districts of the same town. This, at least, is found to be so in comparing the death-rate in different districts of Glasgow. The meaning of these figures, I take it, is that a high death-rate among children is not unavoidable.

What, then, is the cause of this high mortality and how is it to be prevented? It is difficult with any degree of certainty to get at its exact cause, but if you ask the opinion of any dozen medical men whose practices lie in the poor parts of the city the one reply will be "bad feeding." For some years past I have made it my custom to inquire as to the feeding of every child brought to me at the out-door department of the hospital and in most cases the wonder is that the child still lives. Parents of this class seem to give their children, even when a few months old, a share of the food which they themselves are eating, and when the child is weaned the "general run of the house" seems to be the customary diet. Statistics tell the same story. Unsuitable food, we know, is the most common cause of diarrhœa in children, and diarrhœa among poor children is very frequent. This is well illustrated by comparing the deaths due to diarrhœa occurring in different districts of the same city. In Glasgow, *for instance, in most* of the poorer districts the death-rate of children under five years from diarrhœa is from three to four times as great as in the better-class districts.

Let us take it, then, that the chief cause of our infantile mortality is bad feeding, how is the evil to be prevented? The first step would seem to be to instruct parents as to how their children should be fed, for the ignorance even with the better class on this point is often amazing. A committee of experts should be formed to draw up a diet-table for children at various ages. These tables should be printed and disseminated among the people in every way possible. When parents register their children they should receive a diet-table and all dispensaries and medical men and, indeed, all persons visiting among the poor should be freely supplied with them. The circulation of such tables would in time bear fruit and parents would come to appreciate the fact that there is a right and a wrong way of feeding their children.

But to instruct the parents is but a preliminary measure, for many parents cannot afford the food which we tell them their children should have. It is not at all uncommon for a working man to have three children all under four years of age, and to give each of these from threepennyworth to fourpennyworth of milk in the day is quite beyond his means. For this class the only solution seems to be to give free food as we give education. And why not? Is it not more important to the State and to the individual that a child should enter life with a healthy body than that he should be able to read and write? The latter can be amended, not the former. It is doubtless a very large order to feed the children of the poor. So was free education. And is not the evil sufficiently great to demand such treatment? The evil of bad feeding does not end with a high death-rate. If that were so it would not so much matter. But of those who survive we have many growing up puny and deformed, stunted in body and in mind, and a perpetual expense to the community in which they dwell. Indeed, it seems much better to feed children as such, in their own homes, than to feed them as adults, as we do, in our unions, asylums, and prisons. The giving of free food would, of course, be very liable to abuse. That would have to be safeguarded. Parents earning a good wage would not be allowed free food for their children, and if they failed to provide suitable food they would be prosecuted under the present law or some future one more stringent.

I am, Sirs, yours faithfully,
WALTER K. HUNTER.

Glasgow, Feb. 2nd, 1899.

MEDICAL ACCOMMODATION IN "TRAMP" STEAMERS.

To the Editors of THE LANCET.

SIRS,—The wish expressed in my letter to THE LANCET of Dec. 17th, 1898, that Dr. Owens would publish an account of his single-handed operation on board the s.s. *Nineveh* which induced the owners to make the operator a suitable presentation has been speedily gratified by the communication in your journal of Jan. 7th—"Herniotomy plus Laparotomy successfully performed under Unusual and Difficult Circumstances." Dr. Owens's inventive resource and bold surgery undoubtedly saved the man's life. To the hope expressed in the opening paragraph, everyone who reads the narrative will say "Amen," while the surgical deductions that conclude the paper are practical and obvious. The true lesson, however, the kernel of the matter, is to be gleaned in the body of the paper and causes one to ask why steamers are permitted to go on these long voyages with such an imperfect outfit and such meagre and inadequate accommodation for the surgeon? The dimensions of the cabin (the operating-room and presumably the sleeping-quarters of the medical officer of the ship) are mentioned as six feet by five feet six inches. The great liner, travelling at railway speed across the Atlantic, is under Board of Trade supervision; every appliance is furnished by the company and the trusted surgeon has *carte blanche*. The trip is brief—under seven days. On the other hand, there is a class of steamers dawdling to the uttermost parts of the earth, facetiously called "tramps" by the regular liners; I do not certify this appellation to the *Nineveh*, which, I believe, is a regular voyager, but there are steamers that are subject to no surveillance save that of the owners or agents. They advertise that the ship carries a surgeon and the contract is kept in the eye of the law so far; but anyone who reads between the lines of Dr. Owens's history of the trip will discern that the whole bill is not filled, and that the necessary *addenda* to the equipment of that officer, such as fresh and pure drugs, proper instruments, with the necessary space, are sadly lacking. So long as the ship gets clearance legally, makes the voyage, and pays dividends—and these plebeian voyagers pay better than the aristocrats of the sea—precious little interest is taken in that necessary evil, the "surgeon and his fixings." I was curious to learn the cause of such unusual appreciation on the part of the owners; certainly no presentation was ever more worthily gained, but I am ungracious enough to think there is also an air of *placebo* about it. Cases are not altogether surgical at sea. Take the other side of the question. A man and his wife and children going to Australia. The man says to his wife: "You need'nt bother about medicines as there is a doctor on board and he will have all that is necessary." Alas for the medical officer and the family. The surgeon, perhaps going on board an hour before the ship is sailing, absolutely uninformed as to the instruments and drugs on which the lives of those committed to his care depend, while the passenger—well, the necessaries are sometimes not to be found and the losses that have occurred in the past through this incompleteness will not be known here. However, it is superfluous to add words further on this subject. The question still presses: Why are these steamers not subject to the searching eye of the authorities? If there be any justification for the suggestions in this letter it is to be found in a perusal of Dr. Owens's experience during his trip to Australia.

I am, Sirs, yours faithfully,

Bournemouth, Jan 31st 1899. R. A. CALDWELL.

POINTS IN THE WORKING OF THE WORKMEN'S COMPENSATION ACT, 1897.

To the Editors of THE LANCET.

SIRS,—The experience which I have had in the examination of accident claims during many years and of the working of the Workmen's Compensation Act, 1897, since last July enables me to endorse in every way the points in your annotation in THE LANCET of Feb. 4th. Firms and insurance offices which carry employers' indemnity risks are being shot at from every side, not only when disease complicates a *bonâ-fide* accident, but in many cases fraudulently when an alleged accident is invented to cover the result of pre existing disease. This is notably so, as you mention in connexion with phthisis or Bright's disease, but I have often had cases of old-standing hernia, disease of the eye, and rheumatic affections which were all stated to be the result of recent accident. Of course, every effort is made to hoodwink the medical examiner and to hide from him the true history of the case.

I wish to call your attention to a matter I have not yet seen publicly noticed and to ask for your opinion in relation to it. In regard to the medical referees appointed by the Secretary of State it is set forth in the second schedule, section 13, "that a committee, arbitrator, or judge may appoint any such practitioner to report," &c., but this has become in many districts a dead letter. County-court judges, even when there is a direct conflict of medical evidence, give decisions without calling for the report of the medical referee provided by the Act. A county-court judge or other learned lay arbitrator, however learned in the law, is not able to appreciate medical evidence from the point of view of an experienced medical man. If the "may" was altered to "shall" judgments would be more in accordance with justice than they often are at present.

In conclusion, in reference to the fees of house surgeons I think that frequently a medical examination by the medical officer of an employer is incomplete and unsatisfactory unless he has before him the medical history of the case; sometimes, however, it is unnecessary, but before seeing the case it is impossible to decide whether it is necessary or not. It would be convenient if the house surgeon could always be consulted with, but the present fees demanded—£1 1*s*., £2 2*s*., and even £3 3*s*.—are absolutely prohibitory in claims where very small compensation is in question.

I believe it would be to the advantage of house surgeons if a small fee was the rule and I feel sure that most insurance offices and firms would willingly pay a fully satisfactory further fee when an exceptional amount of time was taken up or a written report was required. An authoritative word from you on the subject would be of great value.

I am, Sirs, yours faithfully,

ALBERT BENTHALL,
Head Office Medical Officer, Ocean Accident and Guarantee Corporation.

Cockspur street, Pall Mall, S.W., Feb. 4th, 1899.

⁎ It is clear that the fees asked by house surgeons should bear some relation to the demands made upon their time and to the pecuniary importance of the case. We shall refer to the matter later.—ED. L.

"THE DISTRIBUTION AND ORIGIN OF TUBERCULOSIS IN CHILDREN."

To the Editors of THE LANCET.

SIRS,—Dr. Leonard Guthrie in his interesting and valuable paper in THE LANCET of Feb. 4th arrives at the conclusion that children most commonly become infected through the respiratory, not through the alimentary, tract. Most other pathologists who have paid attention to the question have expressed their opinion upon the point still more strongly. Thus, Dr. Comby[1] in 28 cases of tuberculosis occurring in children under the age of two years considered that infection took place through the respiratory tract in every instance; in all caseation of the mediastinal glands was present. Dr. Emmett Holt[2] in 119 necropsies found the bronchial glands affected in 108 and did not consider that infection through the intestinal tract occurred in more than 1 or 2 per cent. of the cases. Dr. Holt quotes Northrup as having in 125 necropsies on cases of tuberculosis in children found what appeared to be definite infection through the intestinal tract in only one instance, whereas there were 88 in which it was obviously through the bronchial glands. My own experience of post-mortem examinations in young children is so small as to be scarcely worth mentioning, but in 10 cases of tuberculosis in children aged two years and under there were caseous bronchial and mediastinal glands in nine; in four of these there were caseous points in the mesenteric glands also, but in one case only caseation was present in the mesenteric glands, while the bronchial glands were unaffected. Dr. Guthrie seems to doubt that the intestinal tract frequently becomes infected secondarily to the respiratory. He appears to think that extensive lesions of the lung must first be present. Caseation of the bronchial glands, however, probably not infrequently follows a bronchitis set up by tubercle bacilli. I have seen tubercle bacilli swarm in the sputum of an adult suffering from what appeared to be an ordinary attack of acute bronchitis. Dr. Guthrie also agrees with Dr. Woodhead that caseation of the bronchial glands need not necessarily indicate infection through the respiratory tract. Cases may occur occasionally in which the infecting bacilli have arrived from a distance, but instead of there being a danger of attaching too much importance to the bronchial glands as indicating the channel of infection one would think that in many instances the primary focus of the disease when situated in them may be overlooked. Should the mediastinal glands not also be affected the bronchial glands when not specially looked for may easily escape notice. While, however, Dr. Guthrie does not express such a decided opinion as some as to the infrequency of infection by the digestive tract he is not prepared to admit that abdominal tuberculosis when present necessarily indicates that the disease has been derived from cows' milk. He suggests that milk or food may become contaminated by tubercle bacilli in the air, and to this suggestion another may be added, that the kissing of a baby by a phthisical woman may not uncommonly be a source of infection by leaving mucus containing bacilli on the child's lips. So far as I am aware it remains to be proved that the bacilli of bovine tuberculosis are virulent towards man. Dr. Emmett Holt relates an experience that seems to point in the opposite direction; 45 per cent. of the cows of a dairy, which had for several years supplied many families in a large American city were found to be tuberculous. They were killed, and an investigation was started. Of the many hundreds of children who had drunk the milk, only one was found to be tuberculous. I am, Sirs, yours faithfully,

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[1] Klinische Therapeutische Wochenschrift, 1898, 604, quoted in Pediatrics, January, 1899, p. 44.

[2] Medical News, 1896, vol. lxix, p. 656.

THEODORE FISHER.

Clifton, Bristol, Feb. 4th, 1899.

"TREATMENT OF VARIOUS INFLAMMATORY PROCESSES BY THE EXTERNAL APPLICATION OF ALCOHOL."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Jan. 28th Dr. Zangger refers to the good results obtained in cases of whitlow, lymphangitis, incipient abscess, &c., by the application of alcohol. For the last seven years I have had equally good results from the use of carbolic acid (one in 60) applied on lint and covered with protective. I have particularly noticed the relief in my own case when having infected my finger while performing a post-mortem examination I was kept awake by the pain and throbbing. Carbolic acid (one in 60) applied as above and changed three times a day quickly relieved the pain, rendering the finger white and partially insensitive. Sometimes a bead of pus has formed beneath the skin; sometimes not. The carbolic acid relieves tension and limits absorption by contracting the blood and lymph vessels and at the same time acts as a local anæsthetic. I have no very high opinion of carbolic acid (one in 60) as a germicide when applied directly to an infected area, and it appears far-fetched to think that it kills bacteria through an unbroken skin surface. One word of warning. I have come across several cases (and there are a fair number on record) in which the continued application of carbolic acid to fingers has resulted in complete arrest of the circulation followed by gangrene. Patients are apt, unless warned to the contrary, to continue the application for many days and owing to the freedom from pain do not notice that anything is amiss, and the first thing noticed may be that the fingers on being incised fail to bleed, being in a state of dry gangrene. Anæmic young women are especially liable to this mishap.

I am, Sirs, yours faithfully,

C. HAMILTON WHITEFORD.

Plymouth, Feb. 6th, 1899.

"AN ALCOHOL BATH FOR BURNS."

To the Editors of THE LANCET.

SIRS,—Mr. Wilfred Watkins-Pitchford's letter in THE LANCET of Feb. 4th on the suggested treatment of burns by an alcohol bath reminds me of an experiment on somewhat similar lines, though without using alcohol, I made some years ago while I was house surgeon at the Oldham Infirmary. Recognising the very unsatisfactory treatment of bad burns by ordinary methods, and having to deal with a very severe and hopeless case of burning in a little child, the greater part of her body surface having been burnt, and on account of the great pain caused by changing the extensive dressings, and, on the other hand, the great fœtor produced by leaving them unchanged, I decided to try treatment by a bath. After thinking the matter over I improvised a sort of bath by raising the edges of the large macintosh upon which the child was lying and secured them all round to the top of the railings of the child's cot, and then filled the hollow so produced with the child in the middle with carron oil (equal parts of olive oil and lime water). I chose carron oil partly on economic grounds and also because I considered it would probably be as good a dressing as any other for the purpose I had in view. The oil was kept sufficiently warm by the nurse adding a little warmed oil constantly and was changed whenever necessary by lowering the mackintosh at the foot-end of the bed and running it off. The result for the few days that the child lived was perfectly satisfactory as far as the child's comfort was concerned and the fœtor was entirely destroyed. One danger had to be guarded against and that was the danger of the child slipping down into the oil and getting drowned. This, however, was prevented by securing the head and shoulders above the level of the oil by bandages fastened to the metal work of the cot. Although I have not since had an opportunity of again trying similar treatment I feel convinced that some such treatment would be a great improvement on the usual very painful and unsatisfactory methods. I am, Sirs, yours faithfully,

JOHN J. WEAVER.

Southport, Feb. 4th, 1899.

HUNTER *v.* CLARE: THE REAL QUESTION.

To the Editors of THE LANCET.

SIRS,—Your calm and sensible leading article on this case in THE LANCET of Jan. 28th deserves the thanks of all right-minded men in the profession. There is a deeper issue at stake than the mere right of a particular individual to style himself in a particular way. The real question is this: Is it, or is it not, desirable that a large number of the weaker and less industrious students should pass under the ægis of a non-professional body? for such the Society of Apothecaries really is, having no discipline over its Licentiates, merely the power to remove them from its roll for felony or when previously struck off the Medical Register; that they should be encouraged to take a diploma (which is not recognised as even partially equivalent by any other qualifying body and which therefore debars them to a great extent from ever rising to the higher ranks of the profession) by the inducement held out to them that it confers upon them the power to pick and choose any titles they prefer from among those accepted commonly (?), which injunction they nearly all carry out by annexing the lot (I speak from personal observation), covering their houses with multitudinous plates inscribed Doctor, Physician, Surgeon, and Accoucheur, and emblazoning their lamps with similar inscriptions, while the lack of restraint on their actions by the qualifying body permits *some* of them to indulge in such doubtful practices as circularising, handing of cards over chemists' counters, touting from door to door by club agents and insurance touts? Any one of the *old* L.S.A.'s can by passing an examination in *surgery* acquire the *new* Licence. Does that therefore make him a physician? We who practised on the M.R.C.S. and L.S.A. before 1886 used not to think so or so many of us would not have taken a degree or an L.R.C.P. in addition. Moreover, the L.R.C.P. is forbidden by the terms of his Licence to dispense medicine except for those who are his own patients, and therefore to keep an open surgery such as is so common in London and which is, I take it, the special prerogative of the L.S.A. The whole business has been the outcome of the very proper refusal of the College of Surgeons to combine under the provisions of the 1886 Act with a non-professional body in granting a joint licence, and no one interested in the true welfare and dignity of the profession can blame them for doing *so* or the General Medical Council for endorsing their own approval of that action at the time by now preventing the continuance of a grave scandal—a game of bluff on the part of the Apothecaries, the victims being the public quite as much *as the* other members of the profession. It is a strange thing that in the London *local* directories I have examined the letters L.S.A. never occur, while other diplomas and degrees are detailed, the words "physician and surgeon" being alone given. Is this honest or is it a rather dishonest attempt to conceal a qualification in order to get practice?

I am, Sirs, yours faithfully,
WM. J. T. BARKER,
M.R C.S. Eng., L S A., L.R C.P. Lond, D P.H. Camb.,
Formerly Physicians' Assistant, Bristol
General Hospital.

Fulham, S W., Feb 6th, 1899

"REGINA v. REICHARDT."

To the Editors of THE LANCET.

SIRS,—With regard to the letter of your correspondent Dr. Goodhart, as yet unchallenged and which appeared in your issue of Jan. 28th, seconding the appeal advanced by Dr. Savage on behalf of Dr Reichardt, it would be interesting to know how Dr. Goodhart differentiates between what he pleases to call "temporary unsoundness of mind" and what is known in popular phraseology as "temporary insanity," as it might appear in a definitional sense a point which more concerns experts in etymology than experts in lunacy.

It is certain, however, that if patients are received in uncertified houses suffering from "temporary unsoundness of mind" the recipient of such patients treads perilously on the heels of the law, and it cannot therefore be a matter of surprise if one of such cases unfortunately culminates in suicide that the Commissioners should feel it their duty to test the position of the medical practitioner involved in a court of law. For this reason it might suggest itself that Dr. Reichardt having assumed a responsibility which he was not called upon to assume it would follow that the case is one that can scarcely commend itself for public commiseration, although I apprehend no member of the medical profession grudges *Dr. Reichardt his verdict.*

I am, Sirs, yours faithfully,
CLEMENT H. SERS.

Queen's road, Peckham, S E., Feb 3rd, 1899.

THE EXPERIENCES OF A PUBLIC VACCINATOR.

To the Editors of THE LANCET.

SIRS,—In view of the fact that many public vaccinators (like myself) have their fees yet to be fixed by the Local Government Board my first month's experience in a London district may be of interest One solitary parent made a requisition! My vaccination officer sent lists of 107 children who had attained the age of four months. Of these I vaccinated 23 only, eight were out, five gone away, 10 promised to "let me know," three declined the operation absolutely, 11 were already done, seven in two places, four in one place! I came across one family of four unvaccinated, the mother consenting to have the whole done; another family of seven whose father preferred to "brave the penalties of the law," 18 promised that their own doctors should do it, and the rest were postponed. Looking at the time occupied and the character of the business I do not feel elated at my prospects!

I am, Sirs, yours faithfully,
S. E. DISTRICT.

Feb 8th.

THE FEES DUE TO THE NON-RESIDENT MEDICAL OFFICER OF A WORKHOUSE.

To the Editors of THE LANCET.

SIRS,—I should be glad of information on the following points:—1. Is the medical officer (non resident) of a workhouse entitled to a fee at the time of the examination of a patient by a magistrate for the purpose of making out a "detention order"? 2 In the case of the detention order being on account of insanity would the medical officer be entitled to a fee for the examination for the purpose of "certifying" the patient for removal to an asylum as well as when the preliminary detention order is made? 3. In the above what fees are usual? 4. Is a workhouse where the inmates are vaccinated by its medical officer who is not otherwise a "public vaccinator" a "vaccination district" within the meaning of the Act (Clause 4)? Does the clause of the General Orders of the Local Government Board relating to the medical officer (No. 208, 5) prevent the officer from being entitled to a minimum fee of 2*s*. 6*d*.? 5. Is the fee usually now 2*s*. 6*d*. or greater than the minimum.

I am, Sirs, yours faithfully,
WORKHOUSE.

Feb. 6th, 1899

*** Our correspondent is referred to an annotation on p 394 —ED. L.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague Commission.—The Progress of the Plague.—Professor Lustig in Bombay.—Criticisms on Inoculation.

A GREAT deal of the evidence given before the Plague Commission is most uninteresting and consists of repeated accounts of the measures taken at different places for the control of the epidemic. I extract the most important particulars only. At the sitting in Agra Colonel Thomson, I.M S., the Sanitary Commissioner, advocated that when plague broke out in a village the village should be evacuated, the people accommodated in huts, and the hamlet burnt down, and that in a small town a large block all round the focus of the disease should be evacuated, every house being thoroughly disinfected, and every hut burnt. The people should be kept in camps for at least one month. Captain White, I M.S, said that he thought that accidental inoculation by abrasion of the surfaces of the skin or the mucous membrane was the exception rather than the rule in plague and he doubted whether abrasions were sufficient to account for the large number of femoral, inguinal, and axillary buboes amounting to about 75 per cent. of the total cases. On account of the position of the buboes one ought to look for some peripheral point of inoculation which was difficult to find. He did not think that abrasions of the skin on the hands and feet were common among the natives Captain Elphick, I.M.S., gave a pathological account of the Jarvalapur plague cases. Of 35 cases presenting no external bubo all but one died Of these 19 were of the pneumonic form and 15 were considered to be of the so-called septicæmic type. One had internal buboes. One only of the septicæmic type recovered In all the cases examined post mortem there was œdema of the front chest extending to the upper arms, the sides of the chest, and the abdomen. In every case there was some enlargement of the mesenteric glands Colonel Adams, I M S, thought that the outbreak in the Sirdhi State demonstrated that germs of the disease were carried to great distances in clothes. On Jan. 19th the Plague Commission took evidence at Lahore. Captain James, I.M S., thought that in the majority of cases human agency was responsible for the outbreaks, whilst in some instances it was due to rats. These sometimes spread the disease by moving from village to village. He thought that rats coming in contact with clothes infected them. He had observed that infants in arms seemed to be immune. Out of 13 infants nursed by their plague-stricken mothers only one fell sick. The disease was milder in children than in adults He recognised a form of the disease so mild as to permit the patients to move about. He considered the cordon a failure because the police force was not, only insufficient but corrupt.

The Bombay Presidency returns for the week ending Jan. 13th show 2593 cases and 2045 deaths. Last week the figures were 2537 cases and 2048 deaths. For some weeks past there has been a steady decline, but this increase in the number of reported cases is due to the development of the recrudescence in Bombay city where the fatal cases have increased by more than 100. In Kolapur plague also has increased. There are now throughout the Presidency 360 villages affected With regard to the value of train inspections it is to be noted that at all the railway stations where inspections are carried out only 35 cases were detected. The Madras Presidency returns show that 78 villages are infected, against 63 in the previous week. In Bangalore city and cantonment there is a great improvement From August 12th, 1898, when plague first appeared in this Presidency, up to Jan. 13th there have been recorded 11,607 cases and 9750 deaths. Madras city continues free. In Bombay city the increased mortality is very marked. During the past week there have been 307 deaths from plague recorded, as compared with 219 for the previous week, but the total mortality has risen from 1111 to 1239—a rate per 1000 of 75 87. This is more than double the weekly mortality

(604) of the middle of November which was probably the normal death-rate for the present increased population of the city. Unfortunately there is reason to believe that by far the greater part of this excess mortality is due to plague.

Professor Lustig is going shortly to Bombay to superintend the manufacture of, and to experiment with, his curative serum. During the last outburst of plague in this city this serum was extensively tried, but the results were not particularly satisfactory and certainly not conclusive. There was a great difficulty in bringing it undamaged from Italy, so the municipality of Bombay voted a sum of money for its manufacture in Bombay. This, therefore, has been going on during the past few months and the fresh serum is now ready for use. The number of plague cases admitted to hospitals is now under the existing regulations very small, but in testing for the value of this fresh supply it is to be hoped that the cases will be taken on admission *seriatim* and not picked out as for the former experiments. Unless this is done the statistics will be almost valueless.

The advantages of inoculation are not confined to the prevention of plague, but the inoculated who get plague suffer less risks. At a plague hospital in the Mofussil there have been admitted 51 cases of plague amongst persons who had been inoculated; of these 21 had been once inoculated and 30 twice inoculated. The deaths up to date had been 19, composed of nine among the once inoculated and 10 amongst the twice inoculated. This gives a mortality of only 37 amongst the inoculated, or more particularly of 43 per cent. among the once inoculated and of 33 per cent. among the twice inoculated. These figures would be increased somewhat by any deaths among those remaining now under treatment, but as the death-rate from plague among the uninoculated and general population averages from 70 to 80 per cent. these returns show the decidedly protective effect of inoculation. Plague among inoculated persons is characterised also by much less mental disturbance. There are less delirium and less obfuscation of the mental faculties. Considerable criticism has been made of M. Haffkine's prophylactic fluid by various witnesses before the Plague Commission. Colonel Lawrie, I.M.S., says it is a putrescent organic liquid. Dr. Nield Cook of Calcutta says that he discovered sarcinæ in it and what appeared to be the bacillus mesentericus fuscus. Captain Johnson says that some samples contain cocci, others a mixture of cocci and bacilli, and that many of the organisms are distinctly pathogenic, some more virulently so than others. He goes so far as to say that the fluid as received now from Bombay is undoubtedly a putrescent organic liquid.

The migration of rats is probably a not unimportant factor in the dissemination of plague. Rats are known to migrate from one district to another when they find apparently that their numbers are being killed off by plague. They have also been observed to forsake certain houses or blocks of houses where they have apparently scented danger. It is an old observation that they have been known to run away from an impending epidemic. Rats also at normal times appear at places in large numbers unexpectedly or at places not usually frequented by them. It is stated that recently large numbers were seen crossing the causeway from the island of Bombay to the mainland.

Jan. 21st.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Royal Infirmary.

NEGOTIATIONS with the corporation for the sale of the infirmary site are going on, but there is no knowing at present what the result will be. The feeling, however, seems to be tending, much more than used to be the case, towards the sale of the whole site and the removal of the infirmary to a site in Oxford-road which has many advantages in addition to its proximity to Owens College. Such a consummation is to be wished for in the interest both of the infirmary and the city. In the meantime, as the report says, during the past year "the functions of the infirmary have been discharged with their wonted regularity"; 4533 in-patients and 33,443 out- and home-patients have been treated during the year. The income and that of the Barnes Convalescent Home at Cheadle was £25,752, a decrease of £362 on the previous year, due chiefly to diminished annual subscriptions. The expenditure at the infirmary was increased by the building of a new clinical laboratory which cost rather more than £400. At present the infirmary contains 293 beds and the Convalescent Hospital at Cheadle 136. If the infirmary is removed the difficulty of increasing the number of its beds will also be removed.

The Lunatic Hospital.

The Lunatic Hospital at Cheadle is part of the institution comprised under the name of the Manchester Royal Infirmary and is, of course, quite distinct from the Convalescent Hospital also at Cheadle. There is always great pressure on its space and the committee have recently sanctioned the enlargement of the St. Ann's Hospital in the near neighbourhood of the asylum which is devoted to epileptic cases. The committee share in the opinion often expressed by the superintendent, Mr. Mould, "that the main building of the asylum should as soon as practicable be chiefly reserved hereafter for cases requiring active treatment, those of a chronic character being suitably located elsewhere and in a separate building." In order to carry out this object additional land contiguous to the asylum property has recently been acquired. There are 350 beds in the asylum and its branches, and the cry is ever for more room.

Gas Accidents.

Two occurrences in the neighbourhood of Manchester illustrate the dangers connected with lighting and heating with gas. The first shows that gas companies should watch more closely for leakage from the mains to protect themselves from loss and the public from death. On Feb. 5th, at Stalybridge a man was found in his bedroom suffocated by gas which had escaped from a broken main. His wife and two grown-up children were found unconscious. In another house the husband was awakened by his dog scratching at the bedroom door and, as the report says, "making other noises as if in distress." The man, his wife, and baby got downstairs and found the house full of gas. The air about three houses in the street—Nos. 9, 11, and 13—was, as it was said, "pregnant with gas." Nothing had been seen of those living in No. 11, and as the police sergeant was going to knock at the door an explosion took place which blew out the windows and door and caused great destruction inside. A young man, a son, was lying on his face, apparently dead; a daughter was in bed unconscious; and the father was found lying dead on the floor. His wife was in bed and unconscious. It was thought that but for the warning given by the dog there would have been several other deaths. This brings to mind a curious instance of the effect of leakage from a gas main. A gentleman's grapes did not thrive and after a time the gardener who had done his best gave up his place. They fared no better under his successor and no one could divine the cause. But one day the owner lighted a match and threw it down when the floor of the vinery was lighted with a lambent flickering flame. The other tragedy in which three people met their death took place on the same day near Oldham. In this case they were suffocated by the fumes from a gas stove. The fireplace had been bricked up, the door was shut, and there was no outlet for the fumes. There seems room here, at all events for the good of the coming generation, for the addition of a little useful knowledge to what is already taught at board and other schools.

Manchester Port Sanitary Authority

At the monthly meeting of the Manchester Port Sanitary Authority held yesterday, Dr. Crocker, the medical officer of health, reported that he had inspected 119 vessels during the last month, of which 99 were British and 20 foreign vessels. Defective or insanitary conditions were found on 19 British and on two Norwegian ships. This does not redound to the credit of the British ships or their owners. It is satisfactory to learn that no infectious cases were reported. It was moved and carried that in accordance with the recommendations of a sub-committee, "in addition to the authorities of Manchester, Salford, and Stretford which have hitherto formed the Port Sanitary Authority, the Runcorn urban, the Runcorn rural, and the Wirral rural sanitary authorities, shall in future form such authority, and shall bear the expenses of the authority in proportion to the representation on the board." It was also resolved to recommend to the Local Government Board that in addition to this in the event of any ships coming up the canal with infectious cases on board the authority to whose district the vessel was first destined shall pay for the maintenance and medical attendance of such patients.

Feb. 7th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Cameron Prize of the University of Edinburgh.

THE Cameron prize of the University of Edinburgh which is conferred on persons who have made valuable additions to the subject of practical therapeutics has, on the recommendation of the Faculty of Medicine, been awarded by the Senatus Academicus to Dr. Monckton Copeman of the Local Government Board, London, in recognition of his researches on the employment of glycerine for destroying pathogenic organisms in vaccine lymph.

Edinburgh Public Health Committee.

At a meeting of the Public Health Committee of the Edinburgh Town Council held on Jan. 31st it was stated that the cost of reporting cases of infectious disease for the last half year amounted to £542, representing 4339 cases.

Society of Chemical Industry.

At a meeting of the Scottish section of the Society of Chemical Industry held in Edinburgh on Jan. 31st, after the reading of papers by Mr. E. O. C. Standford on a new apparatus for the purpose of automatic infusion and by Mr. G. D. Macdougal (Dundee) on a new apparatus for the rapid analysis of milk, a discussion took place on milk-supply, in which part was taken by Dr. Tatlock, Mr. Falconer King, Dr. Marshall, Mr. L. Watson, Dr. Foulis, and Dr. Aitken. The opinions were expressed that there ought to be a standard for milk fixed by Parliament and that legislation was required dealing with the question of tuberculosis in relation to milk, to the operation of milking, and to the subsequent treatment of milk. Dr. Foulis stated that in his practice 80 per cent. of the cases of scarlet fever had been caused by infection through milk.

Students' Conference in Edinburgh.

The annual conference between members of the Students' Representative Councils of the Universities of Edinburgh, St. Andrews, Glasgow, and Aberdeen was opened on Feb. 3rd by Principal Sir William Muir in the hall of the Edinburgh University Union. Various reports were presented and motions brought forward, among these being a report by the Edinburgh International Academic Committee stating that arrangements were being made for the appointment at foreign university seats of "consuls" who would take an interest in Scottish students going abroad to pursue their studies. The conference was resumed on Feb. 4th, and among other business the question of the employment of the fifth year in medicine was discussed. It appeared that there was a tendency to employ it in attendance at lectures rather than as a year for practical work. It was also moved and carried that the councils be recommended to urge on the authorities the necessity of providing for two final examinations in medicine in the year, so that it might not be necessary for students who had failed to wait for a whole year before again entering for examination.

Glasgow Hospitals.

At the annual meeting of the qualified contributors to the Glasgow Royal Infirmary held on Jan. 30th the Lord Provost, Sir David Richmond, in moving the adoption of the report gave some information of the present position of the reconstruction scheme. He stated that though little apparent progress had been made a great deal of work had been done. The managers were determined that the new hospital should be constructed and equipped in harmony with the best ideas of the day. To realise this end much trouble had been taken and at last the sketch-plan of the internal arrangements had been approved both by the staff and the committee. It was hoped that in the course of a few weeks all the plans would be finally adjusted. The total sum subscribed was £82,000 and the committee trusted that the balance necessary to realise £100,000 would yet be collected. Later in the meeting, as previously intimated, Colonel Denny, M.P., moved the election of two ladies as directors of the infirmary in opposition to the official nominees. Mr. Faithfull Begg, M.P., supported this proposition and a somewhat lively debate ensued. On a vote the ladies were defeated by 85 votes to 26.—The report of the Royal Hospital for Sick Children was submitted to the annual meeting of the subscribers on Jan. 28th. In moving its adoption Dr. Hector C. Cameron alluded to the considerable deficit in the financial account as a matter demanding public attention. He urged that all possible economy was practised in the management of the hospital, but it must be remembered that to give the patients the full benefit of medical science demanded the same expenditure as was necessary to secure the same ends for private patients. Death would not be held at arm's length on cheap terms. Dr. Cameron also spoke in opposition to the proposal to put the hospitals on the public rates.—The Glasgow Central Dispensary has lost the services of Dr. J. B. Russell as chairman in consequence of his removal to Edinburgh. At the unanimous wish of the board Dr. Russell has consented to remain on the directorate.

Medico-Legal Appointment.

Dr. J. Glaister, F.R.S.Edin., D.P.H. Camb., Professor of Forensic Medicine in the Glasgow University, has been appointed one of the medico-legal examiners in Crown cases for the city of Glasgow in place of the late Professor Coats.

Faculty of Physicians and Surgeons, Glasgow.

Mr. J. Hogarth Pringle, M.B. Edin., F.R.C.S. Eng., has been admitted a Fellow of the Faculty.

Queen Margaret College, Glasgow.

A very sad incident has darkened the course of the session. One of the most brilliant of the medical students, Miss Grace L. Young, died last week after only a few days' illness. She had passed through her curriculum with great distinction and in the ordinary course of events would have graduated in July next. Her personal influence not less than her abilities was appreciated in all the college faculties and her early death is the cause of general grief.

Glasgow Medico-Chirurgical Society.

This society met for the eighth time on Feb. 3rd when Dr. Hinshelwood showed for Dr. McCall Anderson a typical case of Psoriasis Rupioides occurring in a girl of nine years of age. Dr. John Love showed: 1. A case of Locomotor Ataxia associated with Diabetes Mellitus. The ataxia had developed with great rapidity. There had been some improvement of late under Frankel's method of re-education of the muscle sense. 2. A case of Locomotor Ataxia with Charcot's Joint Affection very typically developed in the left knee and commencing in the right. 3. A case of Pseudo-hypertrophic Paralysis of four years' duration beginning at the age of 14 years. The case was an isolated one, there being no nervous history in any other member of the family.

Proposed Home for Phthisical Patients near Aberdeen.

The annual report of the Cottage Home for Convalescents at Newhills states that during the season of 1898 165 persons were admitted, most of whom left in greatly improved health. It is proposed to add to the cottage a wing specially constructed for the use of phthisical patients so as to admit of a limited number of cases in the early stage of the disease being treated, as far as climatic conditions will allow, on the open-air system. Such cases, as a rule, have been greatly benefited by residence at the cottage. The financial position of the institution is at present satisfactory and encouraging. Last year there was a surplus of £84 and there is also a reserve in the bank of £75.

Aberdeen Royal Infirmary and Asylum Corporation.

The annual report by the directors of the above institution shows that during 1898 there were admitted to the infirmary wards 2605 patients, while there were also 5692 out-patients, as compared with 2177 and 5557 respectively in the previous year. The deaths in medical cases numbered one in 12·1 and in surgical cases one in 25·9, as compared with one in 9·8 and one in 21·3 respectively in 1897. The curative work and nursing have been effective and satisfactory. The new ward for diseases of women is stated to be an important department and the receiving and operating rooms for eye diseases have been improved and enlarged. There were on an average 40 more patients a day than in 1897, and while the total income increased to £8963 7*s.* 11*d.* the total expenditure rose to £10,215 5*s.* 10*d.* The cost per bed which in 1897 was £51 14*s.* 5*d.* was by economy reduced in 1898 to

£47 16*s.*, being a saving of £3 18*s.* 5*d.* on each of the 196 beds occupied. At the Convalescent Hospital, Cults, near the city, 300 patients were received, as against 175 in the previous year, and the cost per patient was £1 15*s.* 5*d.* A house-to-house collection of contributions will be started in June by the Hospital Saturday Committee to aid the upkeep of the infirmary on its enlarged scale. As regards the Royal Lunatic Asylum, the number of patients on the roll, which at the beginning of 1898 was 771, rose to 840 at the close of the year, an increase of 69 compared with an increase of 35 during 1897. The interim arrangements to be made in consequence of the proposed erection of a new asylum for pauper lunatics from the city are mentioned and it is not expected that the interests of the Royal Asylum will be prejudicially affected. It is estimated that to give effect to the views of the Lunacy Commissioners the reconstruction of the main asylum will cost £40,000. The cost will be met out of the surplus income. Daviot continues a useful branch and 76 acres of agricultural land were added to the grounds in Aberdeen. The ability of the curative work is certified by the Lunacy Commissioners. The total income for 1898 was £29,482 5*s.* 9*d.* and the total expenditure was £25,376 1*s.* 2*d.* Of the surplus of £4106 4*s.* 7*d.* £2000 are allocated to the reserve and £2000 to the cost of extensions.

Feb. 7th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The City of Dublin Hospital.

DR. A. C. DUFFEY who has filled the office of [illegible] surgeon at the City of Dublin Hospital for the past [illegible] years was presented on Feb. 4th with a testimonial by [illegible] the medical and surgical staff, the resident students and ex-students, and the nursing staff. The members of the senior staff of the hospital were all present on the occasion and, quite apart from the value of the articles in which the presentation took its shape was the fact that such an honour to a young member of the medical profession is in Dublin almost unique, which proves that Dr. A. C. Duffey has performed his duties most efficiently during his long term of office in the hospital, while rendering himself at the same time quite unusually popular with the various members of its staff.

The Professorship of Pathology at Cambridge.

Dr. J. Lorrain Smith is a candidate for the chair of Pathology at Cambridge University, vacant though Professor Kanthack's death. After being John Lucas Walker student and demonstrator of pathology in Cambridge Dr. Lorrain Smith was appointed in 1894 lecturer on pathology in Queen's College, Belfast, and in addition to that post he was selected as pathologist to the Royal Hospital, the Hospital for Sick Children, and as bacteriologist to the Corporation of Belfast. The medical faculty of Queen's College, Belfast, and the staff of the Royal Hospital in that city have forwarded to the authorities at Cambridge a very strong letter on Dr. Lorrain Smith's behalf. Although on academic and personal grounds they would very much grudge his loss to Belfast they cannot but wish him every success in his candidature for the chair of Pathology at Cambridge.

Extraordinary Rainfall in January in Belfast.

In January there were 23 days on which rain fell in Belfast and the total amount for the month was 5·38 inches which is unusually high. In the same month in 1898 there were 13 days with rain and the total rainfall was only 1·67 inches.

Health of Belfast.

The report presented at the City Council meeting on Feb. 1st shows that the health of the city was in a satisfactory condition, the annual death-rate being 22·8 from all causes, while in the corresponding part of 1898 it was 24·1. The deaths from all causes in the past month, as well as those from chest diseases, are fewer than in the preceding month, while the death-rate from zymotic disease has also decreased. Typhoid fever is steadily decreasing but scarlet fever of a mild type is prevalent in many districts of Belfast.

Irish University Education.

The public interest in the university question is increasing. It is the great topic of conversation and the papers are full of speeches and letters on the subject, and almost everyone has his own ideas as to the settlement of the difficulty. One thing is becoming more and more evident, and that is the growing feeling that the present arrangements cannot go on; and the recent action of the Senate of the Royal University is an object-lesson to the man in the street. It would appear that this body met on Feb. 2nd, and although its proceedings are supposed to be private they have become through the press public property. Lord Morris presided and The O'Connor Don moved and President Hamilton seconded a resolution declaring that the present university system of Ireland was highly unsatisfactory. To this the previous question was proposed as an amendment by Dr. Allman, F.R.S., and seconded by Professor Leitch, D.Lit. The division showed that 11 Protestants voted for the amendment, while 12 voted against, all Roman Catholics except two. Of the medical members of the Senate three voted for the amendment and one against. His Honour Judge Shaw then proposed a second amendment that, after the statement in The O'Connor Don's motion, to the effect that the present arrangements for university education in Ireland are not satisfactory, there should be added the words "and that we earnestly press upon Her Majesty's Government the necessity of providing teaching colleges in connexion with this university such as will meet the wants and wishes of the people of this country." The O'Connor Don was not prepared to accept this amendment and the upshot was that it was decided unanimously to adjourn the discussion of the mat[illegible] until the next meeting [illegible] nate, which [illegible]. The divulging of [illegible] he subject of private [illegible] ts of the Royal [illegible] in [illegible] unconscious. In [illegible] by his do[illegible] door and, as the report say[illegible] as if in distress." The ma[illegible] sup- [illegible] got downstairs [illegible] the house [illegible] education see that a change in [illegible] evitable. If a Roman Catholic University [illegible] ed, the question to be solved is how to provide [illegible] education for those Protestants who at present go to the Royal University. There are only two courses—one the establishment, as Mr. Balfour suggests, of a Northern University located in Belfast, and the other the plan of developing Trinity College, Dublin, making it the great Protestant University of Ireland, and affiliating with it Queen's College, Belfast, and the Magee College, Derry. This is the view approved of by the Committee of Higher Education of the Irish Presbyterian Church which met on Feb. 6th and came to the unanimous conclusion, in addition to reaffirming a previous opinion in favour of non-sectarian education, "that no solution of the question of university education in Ireland will be satisfactory or final that does not include the complete nationalising of Dublin University." From a purely arts point of view a good deal might be said in favour of this settlement of the University question in Ireland, but those who put it forward forget that there is a great medical school in Belfast—the only one in the North of Ireland—and that the medical faculty is the right arm of Queen's College, for during the last session out of 398 students 223 attended the faculty of medicine. Now, one of the special grievances that Belfast students have against the Royal University is that their school is not properly represented on the examining boards. Take as an example the M.B. Board; here there are 12 examiners and of these only two are taken from Belfast while over 50 per cent. of the candidates come from that school. Another curious anomaly is that two of the examiners are on the staff of the Richmond Hospital, and as a natural result Belfast students are attracted in this way to attend a winter or summer session in that institution in Dublin. The medical profession in the north feel that if their school were affiliated with the medical school in Trinity College, Dublin, all the evils at present existing would be perpetuated, for there would be an effort not to pit Trinity College against Queen's College, but Dublin against Belfast. But there is another important difficulty in the way. Trinity College does not want to be allied with any other college and hence on all these grounds one is compelled to see that the only practical solution of the question is the one which has been so ably and so thoroughly advocated by Mr. Balfour. It alone really holds the field.

Feb. 7th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Contaminated Spring Water in Paris.

SOME six years ago a movement was set on foot to increase the amount of spring water available for drinking in Paris, as there is never at any time too much of this necessity of life. Accordingly the Aire, a stream hitherto unused, was pressed into the service and its water brought into the seventeenth arrondissement by means of aqueducts and other works the cost of which mounted up to several millions of francs. The water was very pure and of excellent taste. One month ago, however, it suddenly became yellow and developed a most suspicious flavour. Upon making a microscopic and bacteriological examination it was found that a vibrio was present closely allied to the cholera bacillus. The population of the affected arrondissement naturally began to get somewhat alarmed although no epidemic has as yet broken out amongst them. The engineers of the supply have stated that they were aware of the presence of this vibrio but that it was harmless thanks to the presence of other micro-organisms which kept it in check. An inquiry is on foot and M. Brouardel who has been consulted considers that circumstances point to the infection of the springs at their source, so a searching investigation has been carried out from this point of view. This inquiry took place at Verneuil in the district where the springs rise. It is now established that these springs which were thought to be collected at their real source for the supply of drinking-water are really only fed by subterranean sheets of water of which the source is some long distance away. As a matter of fact, they are offshoots from the River Aire and not real springs—i.e., they have to do with percolations from the river water and are more or less purified by passage through the soil. After the late very dry summer the first rainfall was absorbed very quickly by the thirsty soil so that the first supply of water percolating through was somewhat impure. The most serious part of the matter is that the Aire a little above where it apparently loses the portion of its waters which goes to feed the subterranean sheets of water which supply the Paris aqueduct receives a small stream, the Iton, which runs through the town of Verneuil and thereby serves the town as a kind of sewer. Again the public wash-houses are on the bank of the Aire at about the same level and the use of fluorescine has shown that this colouring agent when put into the water of the Aire can be traced in the reputed springs which serve the town of Paris.

A Sanatorium for Tuberculous Soldiers.

The question of providing a sanatorium for soldiers attacked by tuberculosis has just come before the Chamber of Deputies. The matter has come to a head owing to the alarming and progressive increase which tuberculosis shows in the ranks of young soldiers In 1890 there were 5·70 per 1000 soldiers discharged during their term of service on account of being tuberculous, but in 1895 the figures had reached 8·34 per 1000. For a tuberculous man to live in barracks is not only bad for himself but a source of danger to his companions. As a matter of fact when the malady reaches a certain stage of development the military surgeons send him home. Unfortunately, however, when arrived there he very seldom finds the conditions necessary for his cure. There is therefore the risk not only that the patient will get worse, but that he will also infect his family and his village. The term of military service which is obligatory upon all Frenchmen is a potent agent in the dissemination of tuberculosis throughout France just as it unhappily is in the case of syphilis. The proposed military sanatorium will allow of the immediate withdrawal of all tuberculous soldiers from their regiments and will at once put a stop to their spreading infection either in the barracks or in their own homes.

A Fraudulent Druggist.

The Paris Tribunal has just had to deal with the case of a druggist who falsified his pills and potions with an audacity which is happily uncommon. He had sold his business which apparently had realised good profits. But his successor very soon saw that by selling drugs and medicines at the same prices as his predecessor, he would soon be on the brink of ruin. He then discovered that the vendor of the business while copying all prescriptions accurately into his register, in accordance with the law, gave his customers very different preparations which, according to him, would produce the same effect as those ordered in the prescriptions, but were naturally much cheaper. At other times, when, for instance, the drug ordered had a very characteristic odour, he simply reduced the dose. He was in the habit of replacing salophen by antipyrine, glycerophosphates by ordinary phosphates, syrup of ipecacuanha by some emetic solution coloured to look like the real thing, while all mineral waters sold were manufactured in the shop. In defence he stated that some of these substitutes were made by his assistant without his knowledge, and as for others his customers had asked for them so that they might have less to pay. The tribunal awarded a heavy punishment, but allowed an appeal which will come up before the court shortly.

The Bicycle in the Treatment of Hernia.

At the meeting of the Academy of Medicine held on Jan. 31st M. Lucas Championnière read a paper by M. Loir, the director of the Pasteur Institute at Tunis, upon the treatment of hernia by means of a bicycle. M. Loir recounted the history of a patient who for four years had suffered from an inguinal hernia and who had tried various trusses without success. He tried bicycle riding, but at first because he used too high a machine the hernia slipped out under the truss. He then got a low machine and was astonished to find that the hernia became reduced when he got on. After four months his hernia had disappeared altogether. M. Loir considers this case unique, but as a matter of fact it is not so. Some ten years ago Dr. Oscar Jennings, in his work on "The Influence of the Tricycle on the Health," had noted the happy results on hernia of tricycle riding. For some time past M. Lucas Championnière has considered that the rest usually prescribed for those suffering from hernia is worse for them than muscular efforts. All workers suffer far less from a hernia than those who lead inactive lives, grow fat, suffer from cough, and get into a saddle with difficulty. M. Lucas Championnière related a case in which the use of a tricycle made two irreducible hernias quite comfortable to a patient in whom formerly they had given rise to various discomforts both local and general. Of course, to obtain a favourable result certain precautions must be observed. A rider with hernia must have his saddle low and placed far back; he must not ride too fast and must avoid hills. The use of the bicycle is an excellent way of consolidating the scar at the site of operation on a hernia and may be prescribed with advantage as soon as the patient is well enough to get about.

Feb. 8th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The German Malaria Commission.

THE official report of the German Commission for the Study of Malaria in Italy, under the presidency of Professor Koch, has been published in last week's number of the *Deutsche Medicinische Wochenschrift.* The Commission was directed (1) to study the so-called "febbri malariche estivo-autunnali"; (2) to ascertain the relations between Italian and tropical malaria; and (3) to study the mode of infection, especially by insects. The work of the Commission was accomplished partly in Milan and partly in Rome, where an abundant supply of cases was at its disposal. It was found that the "febbri estivoautunnali," though presenting clinical differences, were, from an etiological point of view, caused by one and the same well-characterised parasite. Recent cases showed the tertian type which in course of time became altered by the use of quinine or by natural immunity. The parasites of Italian and tropical malaria are identical, the differences alleged by Italian physicians to exist between them being based upon differences in the methods of investigation. The Commission farther ascertained that the semilunar form of the parasites was not caused by a degeneration as it contained chromatin, a certain symptom of a still existing capacity for propagation. A parasite very similar to that of the human subject was discovered in birds [illegible] the proteosoma which has been [illegible] ajor Ross," Indian Medical [illegible] 's opinion as to verified. From the resemblance between the two parasites it is very likely that the parasite of malaria develops in the same way as the proteosoma. During their stay in Rome the Commissioners had ample opportunity of observing the local and seasonal conditions of malaria. The city of Rome, though situated in a malarial district, is itself almost free from the disease. The cause of this very remarkable fact is not in the air which on all sides enters the town freely from the infected Campagna, neither is it in the water which is conveyed partly in open aqueducts from those districts, nor is it in the food which for the greater part is imported from the neighbourhood. The main difference between the conditions present in Rome and the surrounding country is that the interior of the city has no vegetation and therefore no mosquitoes. In winter the number of cases of malaria in the Roman hospitals is very small; in spring some cases of tertian fever are usually met with, whilst in June the number of patients increases suddenly and enormously. The cause of the prevalence of malaria in that month is not known. Methylene blue was successfully given in some cases in Italy and also in Berlin in tropical malaria when quinine was contraindicated by the simultaneous occurrence of blackwater fever. The "ticks" by which Texas fever is conveyed in East Africa were also discovered in cattle of the Campagna affected with Texas fever.

New Chemical Products as Medicines.

At a recent meeting of the Leipsic Medical Society Professor His drew attention to some disadvantages connected with the great development of chemical industry. He said that the interests of chemical manufacturers were not always in accordance with those of the public and the medical profession, for they produce every year an enormous number of new compounds which are forthwith placed on the market as therapeutical agents and they are anxious to sell as much as possible of each of them before a better one is issued by a trade rival. There is now scarcely a day that practitioners are not importuned by advertisements and samples sent to them and nearly every one of the new drugs is accompanied by the certificates of medical men stating that it is of incomparable value in certain diseases, but if inquiries are made after the lapse of a year or two one is surprised to find that the name of the once-vaunted remedy is scarcely known to the medical profession. The great majority of new compounds are nowadays recommended before they have been sufficiently proved as to their action and even their freedom from danger, one result of which was that so strongly toxic a substance as pyrodin was used as an antirheumatic and antipyretic remedy, not less than eight physicians having published articles favourable to the use of pyrodin, a substance which, according to Professor Liebreich, the eminent pharmacologist, has an extremely deleterious action on the blood. An exhaustive examination of new drugs ought to be made before their public sale is allowed. It is a fundamental maxim that new compounds ought first to be tried on animals by experienced pharmacologists. Some of the principal manufacturing chemists have already met this requirement by appointing pharmacologists of reputation and by providing them with well-equipped laboratories. The investigations conducted by the Elberfeld Farben Fabriken might serve as an example to other manufacturing firms. It is very undesirable that such investigations should be undertaken by inexperienced persons as the medical profession might in that case perhaps be misled by a mere similitude of scientific work. Experimental pharmacology affords a means of verifying the indications for the use of a new remedy and of ascertaining its possibly toxic action, but in order to discover its therapeutic effect it is necessary at last to try it on the human subject. Not everyone, however, is justified in administering new compounds to patients. Active substances ought to be tested only in hospitals where constant observation of the patients is possible, and where medical aid is at hand in the event of toxic symptoms manifesting themselves. Professor His then explained that the action of remedies could be verified either empirically or by the statistical method or the "rational" method and that the three methods must be used together. The conditions of rational research are very much improved by the use of modern methods of precision, such as the determination of weight, temperature, and blood-pressure, as well as by skiagraphy, auscultation, percussion, &c. In this way it is possible to avoid the complication of suggestion which is an important source of error. Apparent successes in treatment were often the effect of suggestion merely, instances of this kind being the results obtained by tuberculin, by suspension in tabes dorsalis, by electricity, &c. Professor His was of opinion that much experience and knowledge, combined with the critical faculty, are essential for those who would undertake the examination of pharmacological products, and men who do not possess these qualities had better abstain from therapeutical experiments or else keep their successes secret as long as possible. In medicine it often happens that it is the *cunctator* who gains the final victory.

The German Congress of Internal Medicine.

The German Congress of Internal Medicine will be held this year outside the boundaries of the German Empire in the famous Bohemian watering place of Carlsbad, under the presidency of Professor Quinke of Kiel. The official items on the programme are: (1) The Insufficiency of the Heart Muscles (to be introduced by Professor Schrötter of Vienna and Professor Martius of Rostock); and (2) Leukæmia and Leucocytosis (to be introduced by Professor Lowitt of Innsbruck and Professor Minkowski of Strassburg). Addresses will also be delivered on the following subjects:—Diagnosis and Treatment of Aneurysms of the Aorta, by Dr. Schmidt of Frankfort; Etiology of Syphilis According to Modern Researches, by Dr. von Niessen of Wiesbaden; Experiments on the Treatment of Tetanus, by Dr. Jacob of Berlin; Pathology of Gall-stones, by Dr. Meyer of Carlsbad; Treatment of Chronic Diseases of the Heart in Young Persons, by Dr. Schott of Nauheim; Administration of Digitalis in Troubles of the Circulation, by Dr. Groedel of Nauheim. Other addresses will be delivered by Professor Nothnagel of Vienna, by Professor Naunyn of Strassburg, by Dr. Leichtenstern of Cologne, by Professor Ebstein of Göttingen, by Professor von Jaksch of Prague, &c. The congress will last from April 11th to the 14th. Medical men desiring to attend must apply to Herr von Mattoni at Carlsbad.

Feb. 6th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

"*Laureomania.*"

THE malady is a real one—a form, indeed, of "megalomania" so pronounced and becoming so common as well-nigh to have won its way into medico-psychological classification and certainly to have come under the consideration of Parliament. The craving for academic distinction (for this is what it amounts to) can be gratified all too cheaply in Italy, which, with a population of some 31,000,000, has at least 20 universities, to say nothing of what in Germany are called "Hochschulen," like the Istituto di Studi Superiori in Florence and the Istituto Lombardo di Scienze e Lettere in Milan. Entry into the liberal professions being thus so easy other occupations in business, in manufacture, and even in the handicrafts are impoverished to the serious injury of these and to the disturbance of the social order. As to the professions themselves the prospects of a livelihood they offer to their members become yearly more desperate, such is the overcrowding of their ranks, such the pressure of competition. We have it on the authority of the Minister of Public Instruction himself that to qualify and to graduate in medicine is from first to last a matter of little over 300 Italian lire, or £12! And yet to possess a degree, to be an "avvocato" or a "medico" (otherwise "professore" in the provinces), is an object of ambition well-nigh morbid and annually ever more eagerly craved for. Signor Fusinato, a member of the Chamber of Deputies, has just handed in his "relazione" (report) on the subject and the most startling, not to say ominous, figures are put in evidence. From 1882 to 1896 there was an increase of 42 per 1000 in the number of "laureati" or graduates in one or other of the faculties. As the population in that period has augmented by 6·2 per 1000 it follows that the increase of graduates between 1882 and 1896 has been approximately seven times greater than the corresponding rise in the population. Coming to particulars, let me begin with law. This profession has 8200 posts reserved for it in the public administrations and it has 10,000 members who practise it on their own account There are therefore 18 200 legal graduates more or less occupied The "waste or loss by death or "invalidità" (being pensioned off) in this *personnel* amounts to 500 annually, while the average production of graduates between 1832 and 1896 was 1070—that is, more than double the yearly loss Take our own profession For medical men there are reserved in the public administrations 20 757 posts, the average yearly "waste' is 500 and the average production of graduates per annum is 928—almost if not quite, double the number there is room for The pharmacists fare better For them there are 12 505 posts reserved The annual "waste is 313 and the production is 312 Veterinary surgeons in practice or in service are 2500 The annual "waste' is 63 and the production is 86 though it should be stated that out of 8257 communes only 1734 have hitherto provided themselves with "divisional' veterinary surgeons Midwives (for they too are "laureate') are in practice to the number of 10,243 Their 'waste is 256 and their production is 556 But here too, it should be said that 3338 communes have no 'levatrici condotte —that is hired or "divisional midwives Engineers also graduate in excess, there being every year 300 posts open to them, while annually 356 are 'laureati' Lastly come the graduates in philosophy and literature The posts reserved for them in the public administrations are 3371, there are about 100 of these open every year and there are 175 new graduates This excess of graduation is, as I have said, a grave evil making itself felt in a thousand pernicious ways As already pointed out in THE LANCET it explains the enormous number of what are conveniently called 'publicists or 'affaristi' in Italy—men whose business is agitation in the press or on the platform whose 'objective is 'place' and whose activity in the State serves no useful purpose while leaving commerce, industry, and even the humbler arts more and more short handed

Feb 4th

AUSTRALIA

(FROM OUR OWN CORRESPONDENT)

The Victoria Branch of the British Medical Association

THE annual meeting of the Victoria Branch of the British Medical Association was held on Dec 21st 1898 From the report of the Council it appeared that 12 new members had joined during the year and district branches had been formed at Ballarat and Goulburn Valley The following were elected as office-bearers for the ensuing year President Mr A L Kenny, M B, vice president Mr G A Syme M S, F R C S honorary treasurer, Mr J R M Thomson M B, honorary secretary Mr W Kent Hughes M B Lond, M R C S Eng honorary librarian, Mr Felix Meyer, M B, editor of the *Australasian Medical Gazette* Mr J W Springthorpe M D Melb, M R C P Lond Members of Council Mr A V M Anderson M D, Mr I D Bird, M S M R C S, Mr I M Harricks, F R C S Irel, Mr H F Lawrence M R C P Edin, Mr R L McAdam, M D Dub Mr D McM Officer, M B, Mr M A O Sullivan, L R C S Irel Mr R R Stawell M D Melb Mr A W F Noyes F R C S Edin The retiring President Dr R L McAdam, read an address in which he congratulated the branch upon a very successful year of work, signalised further by the admission of lady members Reference was made to 'patent medicines and the necessity for taking steps to protect the community against these remedies and it was recommended that the Government should adopt the German custom of analysing these nostrums and having the result and the actual cost of each ingredient affixed to each bottle or packet The present methods of meat and milk supply came in for some scathing criticism The new Meat Bill was "a tardy effort to effect a much needed reform but "of still greater necessity was it that the milk supply of the community should be radically improved' The treatment of tuberculosis in sanatoria was next considered and it was pointed out that while the Victorian "climate was second to none in the facilities it afforded for taking advantage of the full benefit of the open air treatment yet there was in the colony no institution in which any attempt was made to carry it out in its completeness' It was estimated that in the comparatively small population of Victoria no less than 6000 phthisical subjects existed The death rate from phthisis was greater in Victoria than in any other of the Australasian colonies and it was higher than it had been It was strongly urged that an association should be formed for the prevention and treatment of phthisis Finally Dr McAdam referred to the relations between the medical profession and the friendly societies and said that whether remedies against existing evils were adopted or not rested entirely with the profession If its members presented a bold and united front they would obtain reasonable and fair treatment which was all they demanded The meeting closed with a hearty vote of thanks to Dr McAdam who afterwards entertained the members at supper

Outbreak of Anthrax in Sheep

A mob of sheep which arrived at the Melbourne saleyards from New South Wales was found by the inspector to be suffering from anthrax The inspector's opinion was confirmed by bacteriological examination by Dr Cherry at the Pathological Laboratory, Melbourne University Some of the sheep of the same mob had been sold as food before the disease was discovered Every precaution has been taken to prevent further infection

Insanity in New South Wales

The annual report of the Inspector General of the Insane for New South Wales shows that the number of insane is about 4000 of whom two in three are males 692 persons were admitted to the asylums and the net increase in patients was 112 which was less than in previous years The proportion of recoveries, 327 of the total number, is satisfactory, and nearly half the admissions were so far relieved as to be safely discharged to the care of friends The cost of maintenance in asylums was at the rate of £24 per patient annually and 13 per cent of the total cost of maintenance was contributed by the relatives of the patients As to causation, intemperance accounted for as many cases as were due to all the other causes The classes which gave the greatest number of patients were unskilled labourers, 149, domestic servants, 539, and persons of no occupation, 600

Opposition to the Children's Hospital at the Glebe Sydney

At a recent meeting of the Glebe Municipal Council a long discussion took place as to the desirability of allowing the Children's Hospital with its diphtheria wards to remain in so crowded a district and the following resolution was carried by six votes to two —

> That this Council is of opinion that the opening of the Diphtheria Hospital as a branch of the Children's Hospital in the Glebe is contrary to the expressed original intention when the Children's Hospital was opened that the existence of such Diphtheria Hospital in the Glebe is a menace to the health of the inhabitants and that the Government should be requested to immediately remove the same to some less crowded and more suitable locality

In opposition to the motion it was pointed out that out of 145 patients taken to the hospital from all parts of Sydney and the suburbs only 25 were fatal cases that not one of these was from the Glebe that only one death from diphtheria occurred in the Glebe outside the hospital, and that the objections to the hospital were purely sentimental

Food Standards in New South Wales

The Governor in Council of New South Wales has decreed, upon the recommendation of the Board of Health, the following food standards milk shall contain not less than 12 per cent of natural milk solids of which at least 3 2 parts must be genuine butter fat, butter must contain not less than 83 per cent genuine butter fat, tea must not contain more than 8 per cent of mineral matter calculated on the tea dried at 100° C of which at least 3 parts must be soluble in water, and the tea as sold must yield at least 28 per cent of extract vinegar should contain not less than 3 per cent of acetic acid and not more than a one thousandth part by weight of sulphuric acid

Death of the Secretary of the Melbourne Hospital

Mr J Williams who had been for 44 years secretary of the Melbourne Hospital and who resigned the position on Nov 29th 1898 owing to ill health died on Jan 3rd, 1899 He was the initiator of the Hospital Sunday collections in Melbourne in the year 1873, since when the total amount collected has been £57 000

Death of Dr A Mueller

Dr Augustus Mueller of Yackandandah died on Dec 31st 1898 He had practised in the district for over 40 years and was widely known as the originator of what has been called the "strychnine cure" for snake-bite. He was born in Westphalia in 1828 and graduated M.D. at Giessen in 1854. Besides practising his profession he was a *vigneron* of some note and was also a confirmed spiritualist. At the time of his death he was engaged in writing a work on the treatment of typhoid fever.

Jan. 3rd.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the First Examination of the Board in the subjects indicated:—

FIVE YEARS' REGULATIONS.

Part I. Chemistry and Physics.—Charles F. Medlicott Abbott-Brown, King's College, London; Owen Mortimer Bartlett, St. Mary's Hospital; Leonard Bolitho Bigg, St. Bartholomew's Hospital; George Birch, London Hospital; Lawrence Twemlow Booth, University College, Liverpool; Guy Leslie Buckeridge, Oxford University and Guy's Hospital; Thomas Waycott Chaff and Stephen Estridge Crawford, St. Bartholomew's Hospital; Arthur Frederick Cole and Harold Juler Cundell, St. Mary's Hospital; John Alfred Cronkshaw, Owens College, Manchester; Percy Toplis Drabble, Firth College, Sheffield; Armin Gascoigne Vavasour Elder, St. George's Hospital; Harry Loft Evans, St. Thomas's Hospital; Robert Marshall Fickling, Birkbeck Institute; Samuel Christopher Reeve Flaxman, Middlesex Hospital; Raymond Reynolds Garrett, St. Mary's Hospital; George Francis Hardy, Guy's Hospital; John Warwick Hele, Middlesex Hospital; Martin Herzheim, St. Bartholomew's Hospital; Ludovic Hill, St. Mungo's College, Glasgow; Nelson Wood Hill, London Hospital; Lionel Swinton Hooper, St. Thomas's Hospital; Hugh Morley Huggins, St. Bartholomew's Hospital; Sydney Francis Huth, St. Mary's Hospital; Edgar Norman Jupp, Guy's Hospital; Charles Samuel Kingston and Edward Leverton-Spry, St. Bartholomew's Hospital; Frederick Boulton Lowe, Guy's Hospital; Evelyn John Hausler Luxmoore, St. Mary's Hospital; Ernest Hammond McMahon, Charing-cross Hospital; Philip Jauvrin Marett, Westminster Hospital; George Boddy Messenger, University College, Liverpool; Hugh Francis Fountain Mortimer, Birkbeck Institute; Charles William O'Brien, St. Bartholomew's Hospital; Geoffrey Owens Parsons, St. Thomas's Hospital; Herbert Wilberforce Perkins, Birkbeck Institute; Bryan Pick, St. George's Hospital; James Derham Reid, Owens College, Manchester; David Harold Richards, Guy's Hospital; Thomas Rose, Middlesex Hospital; Edward John Henry Rudge and George Meredith Sanderson, London Hospital; Harvey Llewellyn Shelton, Guy's Hospital; Aaron Hoyland Smith, Firth College, Sheffield; Robert Spears and Howard Douglas Stewart, University College, London; Joseph Harvey Kemp Sykes, Yorkshire College, Leeds, and Technical College, Bradford; Francis Thompson, London Hospital; Edward Mervyn Thomson, St. George's Hospital; Henry Strawson Turner, King's College, London; Hugh Wheelwright, St. Thomas's Hospital; George Frederick Wilson, London Hospital; and Walter Frederick Wise, Middlesex Hospital.

48 gentlemen were referred for three months.

Part II. Practical Pharmacy.—Charles Birch, Mason University College, Birmingham; Sidney Charles Henry Bent, Guy's Hospital; Harry Hendy Butcher, St. Bartholomew's Hospital; Percival Butler, Private Study; William Reginald Cazenove and Joseph Taaffe De Coteau, Guy's Hospital; Thomas Waycott Chaff and Charles Dix, St. Bartholomew's Hospital; Walter Dick, University College, London; Reginald Ambrose Facey, St. Mary's Hospital; Harold Edwards Flint and Harold Goodman, St. Bartholomew's Hospital; Francisco José Gomez, King's College, London; Philip Lansdowne Hickes, University College, Bristol, and Guy's Hospital; Ludovic Hill, St. Mungo's College, Glasgow; Ricardo Luis Jimenez, Guy's Hospital; David John Lewis and James Adrian McComb, London Hospital; Leslie Miles Morris, St. Bartholomew's Hospital; Ridley Ewart Mounsey, St. George's Hospital; Samuel Northwood, Mason University College, Birmingham; Charles Louis Claude Owen, St. Bartholomew's Hospital; Horace George Pinches, St. Thomas's Hospital; Robert John Pritchard and William Owen Roberts, Guy's Hospital; Rees William Rees, Surgeons' Hall, Edinburgh, and University College, London; Edward Arthur Sanders, King's College, London; Robert West Stephenson, University College, Liverpool; George Shorland and Edwin John Tongue, Guy's Hospital; Arthur Ernest Whitehead, Firth College, Sheffield; and Henry Chadwick Woodcock, St. Mary's Hospital.

13 gentlemen were referred for three months.

Part III. Elementary Biology.—Harold Balme, King's College, London; Henry Bardsley, University College, Liverpool; Henry Stagg Bennett and Amelius Cyril Birt, St. Thomas's Hospital; Bertram Raleigh Bickford, Charing-cross Hospital; Sidney Clement Bowle, Guy's Hospital; Charles Reginald Bradley, Birkbeck Institute; Francis Arthur Brodribb, St. Paul's School, London; Hugh Donald Cochrane, St. Thomas's Hospital; Thomas Reginald Couldrey, St. Bartholomew's Hospital; Frederick Williams Crosswell, St. Mary's Hospital; Armin Gascoigne Vavasour Elder, St. George's Hospital; Harold Salter Gettings, Mason University College, Birmingham; Robert H. T. Penruddocke Harris and William Frederick Higginson, St. Mary's Hospital; Arthur Edgar Hay, King's College, London; John Warwick Hele, Middlesex Hospital; Arthur Stuart Menteith Hutchinson, and Alfred John Hopkinson Iles, St. Thomas's Hospital; Martin Herzheim and Robert Mackenzie Im Thurn, St. Bartholomew's Hospital; Marcus Antonius Johnston-Lavis, Epsom College; Seymour Whitworth Jones, St. Mary's Hospital; William Athol Desmond King, Middlesex Hospital; Colin Butterworth Lee, Owens College, Manchester; Paulin John Martin, St. Bartholomew's Hospital; Frederick James Pierce, Charing Cross Hospital; Edmund Arthur Roberts, King's College, London; James Derham Reid, Owens College, Manchester; Thomas Rose, Middlesex Hospital; George Meredith Sanderson and Samuel Smullan, London Hospital; Isaac Surtees Sheffield, Guy's Hospital; Malcolm Winfrid Shute, St. George's Hospital; George Morley Arundel Thomas, St. Mary's Hospital; Henry Strawson Turner, King's College, London; J. C. F. Dudley Vaughan, Bertram Joseph Wakley, Henry Albert Wickens West, and John Henry Marsden Whitehead, St. Thomas's Hospital; Arthur Reginald Wade, St. Bartholomew's Hospital; Salomon James Weinberg, Owens College, Manchester; Vernon Northwood Whitamore, Charing-cross Hospital; and Edwards Barton Cartwright White, London Hospital.

22 gentlemen were referred for three months.

FOUR YEARS' REGULATIONS.

Part II. Materia Medica.—Alexander Vigors Benson, London Hospital; George Minter Brown, Guy's Hospital; Augustus Charles Jenkins, London Hospital; Louis Charles Martin, Guy's Hospital; Peter Herbert Scholberg, Cambridge University and St. Bartholomew's Hospital; and William Peach Taylor, Firth College, Sheffield.

One gentleman was referred for three months.

Part III. Elementary Physiology.—James John Anning and James Ewing, Yorkshire College, Leeds.

UNIVERSITY OF LONDON.—The following candidates at the Intermediate Examination in Medicine held in January were successful:—

ENTIRE EXAMINATION.

First Division.—Archibald Douglas Hamilton, University College, Liverpool; Henry Walter James, University College, Cardiff, and St. Bartholomew's Hospital; and Philip Savill, University College.

Second Division.—Henry Martyn Brown, St. Mary's Hospital; Janet Mary Campbell, London School of Medicine for Women; Cecil Edwin Chriswick Child, Charing-cross Hospital, and Birkbeck Institute; Edward Murray Clarke, University College, Cardiff; Olive Claydon, London School of Medicine for Women; George Thomas Collins, Guy's Hospital; Lucian Arnold E. DeZilwa, B.Sc., University College; Henry Bertram Foster, Guy's Hospital; Lionel Capper Johnson, University College, Liverpool, and Owens College; Henry Crewe Keates, Guy's Hospital; Charles Ernest Lakin, Middlesex Hospital; Richard Ernest Lloyd, B.Sc., University College; Herbert Love, St. Bartholomew's Hospital; Frederick James Alexander Mayes, and John Sherwood New, University College; John Elliott Sparks, University College, Bristol; Louisa Spicer, London School of Medicine for Women; Albert Edward Thomas, St. Bartholomew's Hospital; and Vivian Francis Wall, St. Mary's Hospital.

The names of the other successful candidates, as well as of those who have passed the Preliminary Scientific Examination will be published next week.

UNIVERSITY OF CAMBRIDGE.—A Cambridge University Association has been formed for the purpose of enlarging the resources of the University, and, as we announced last week, the Chancellor, His Grace the Duke of Devonshire, is its President. In addition to a gift of £10,000 from the Chancellor and a like gift from Lord Rothschild's firm, benefactions amounting to over £30,000 have already been promised for specific objects. This includes the sum promised by the Drapers' Company for the establishment of a department of agricultural science. The following Bachelors of Arts were on Feb. 2nd admitted to the degrees of Bachelor of Medicine and Bachelor of Surgery: F. H. Maturin, Gonville and Caius; G. E. Harthan, Jesus; A. E. Harrisson, Magdalene; and P. T. Sutcliffe and H. C. Thorp, Emmanuel.—A notice has been issued by the Special Board for Medicine giving a new schedule for the examination in Pharmaceutical Chemistry which forms part of the Second Examination for the degree of Bachelor of Medicine. This Schedule will come into force on the first day of October, 1899.

The examination will be practical and the questions set will have reference to—

(1) The chemical principles involved in the preparation of the following substances. reduced iron, mercury with chalk, lithium citrate, potassium iodide, mercurous chloride, mercuric chloride, calcium hypophosphite, arsenical (Fowler's) solution, hydrochloric solution of arsenic, sulphurated lime, iron phosphate, strong solution of ferric chloride, bismuth oxynitrate, strong solution of lead subacetate, tartarated antimony, iron and ammonium citrate, ammoniated mercury.

(2) The chemical relations characteristic of the following substances: solution of trinitrin, amyl nitrite, chloral hydrate, iodoform, hydrocyanic acid; the alkaloids atropine, brucine, codeine, morphine, quinine, strychnine, and caffeine; phenol, beta-naphthol, salicylic acid, salol; gallic acid, the tannins of galls and catechu; salicin; acetanilide, phenacetin, phenazone.

(3) The chemical incompatibilities of drugs as illustrated by the inter-action of iron salts with arsenical solutions, alkalies with mercurial preparations, acids with sulphurated lime, acids and oxidising agents with potassium iodide, and astringent solutions with alkaloids.

(4) The estimation by volumetric methods of arsenic and antimony in given solutions of chlorine in chlorinated lime, of hydrocyanic acid in cherry-laurel water and other solutions, of iron in reduced iron and iron phosphate, of nitrites in solution of ethyl nitrite and spirit of

nitrous ether and of citric and tartaric acid in given solutions standardised solutions being provided

(5) The characters of the foregoing substances and the physical and chemical tests for them and for their usual impurities.

FOREIGN UNIVERSITY INTELLIGENCE —*Bonn* Dr H Schroeder has been recognised as *privat docent* of Midwifery and Gynæcology —*Brussels* Dr Albert Crickx has been appointed *Professeur agrégé* —*Innsbruck* Dr Alois Lode has been appointed Extraordinary Professor of Hygiene —*Lausanne* Dr Combe *privat docent* of Pediatry has been promoted to an Extraordinary Professorship —*Marburg* Dr Eugen Enderlen has been recognised as *privat docent* in Surgery —*Munich* Dr J N Oeller has been appointed Extraordinary Professor of Ophthalmology —*Naples* Dr R Caporali has been recognised as *privat docent* of Medical Pathology Dr Fr Candia as *privat docent* of Gynæcology and Dr G Jacontini as *privat docent* of Medical Pathology —*Pavia* Dr Bernardino Silva has been promoted to the Ordinary Professorship of Medical Pathology Dr Scipione Riva Rocci of Turin has been recognised as *privat docent* of Medical Pathology —*Prague* Dr Eduard Nessel has been appointed Extraordinary Professor of Odontology —*Utrecht* Dr Snellen is about to retire from the chair of Ophthalmology

PRESENTATION TO A MEDICAL MAN —Mr A H Cook, M B L R C P Lond M R C S Eng of Roslyn hill Hampstead who has recently resigned the post of medical officer at the Hampstead Workhouse after 16 years service was the recipient on Jan. 28th of a handsome testimonial from his late colleagues

BATH EYE INFIRMARY —The annual meeting of governors and others interested in this institution was held on Jan 30th under the presidency of Mr H D Skrine The report showed that 208 in patients had been admitted during the past year, against 262 in 1897 Financially there was a good balance in hand and £245 the amount of legacies received had been carried to capital account

SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH —The fifty ninth annual meeting of the subscribers of the South Devon and East Cornwall Hospital was held on Feb 3rd under the presidency of the Earl of Mount-Edgcumbe The report stated that 1313 in patients had been admitted during 1898 being 40 in excess of the previous year The out-patients treated were 2336 in number against 2445 in 1897 and 222 patients were sent to the convalescent home at Pearn which is in connexion with the hospital The financial statement showed that the expenditure for the year was £6509 and that there was an unfavourable balance of £416

BATH ROYAL UNITED HOSPITAL —The annual meeting of the governors and others interested in this institution was held at the Guildhall Bath on Jan 30th under the presidency of the mayor The report stated that during the year 1190 in patients had been treated against 1264 in 1897 a decrease of 74 The out-patients numbered 8209 being 779 less than in the preceding year During the past year the new chapel and kitchens had been constructed and the operation theatre refurnished The financial statement showed a falling off in subscriptions and donations but an increase in subscriptions from factories and workshops

DEATHS OF EMINENT FOREIGN MEDICAL MEN —The deaths of the following eminent foreign medical men are announced —Dr August Socin Extraordinary Professor of Surgery in the University of Basle He was born at Vevey in 1837 and studied at Basle and Würzburg During the Franco-German War he was in charge of the Ambulance Hospital at Carlsruhe and subsequently published in conjunction with Professor E Klebs a work on the surgical cases which he had seen His chief subsequent publications related to the surgery of the urinary organs and especially to that of the prostate He was one of the editors of the *Beitrage zur Chirurgie* —Dr Giampaolo Vlacovich Professor of Anatomy in the University of Padua —Dr Karl Claus Professor of Zoology and Comparative Anatomy in the Philosophical Faculty of the University of Vienna —Dr Konstantinos Busakis Professor of Physiology in the University of Athens

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS

Opening of the Session

THE session of Parliament was opened by Royal Commission on Tuesday Feb 7th the session being the fifth of the present Parliament. As usual the Queen's Speech with which the session opened referred to the legislation proposed to be introduced by the Government Twelve Bills were mentioned four of them in separate paragraphs and the other eight in what is known as an omnibus paragraph Of the former the only one that need be noted here is a measure for the establishment of a board for the administration of primary secondary and technical education in England and Wales, and of the latter a Bill for providing a more complete distribution of water-supply in cases of emergency in London and a Bill for the prevention of the adulteration of articles of food Medical men will be disappointed to learn that the Speech made no reference whatever to the subject of revaccination and that neither the Marquis of Salisbury nor Mr Balfour mentioned it in their speeches in the Debate on the Address In connexion with India, the Queen's Speech said that the plague in that country still continues and though it has diminished in some districts previously affected it has spread to fresh places in Southern and Northern India and the remark was added that unremitting efforts continue to be made to relieve sufferers from the disease to check its spread in India and to prevent its transmission to other lands

The Vaccination Question

Mr BARTLEY has given notice that he will move for the preparation and issue of a return showing the number of persons who from the passing of the Vaccination Act of last year up to Dec 31st have under Section 2 of the Act satisfied two justices or a stipendiary or metropolitan police magistrate in petty sessions that they conscientiously believe that vaccination would be prejudicial to the health of their children the return to distinguish between Parliamentary boroughs and divisions of counties

The Flash Point of Petroleum Oil

Mr URE, one of the members of the Select Committee on Petroleum intends during the debate on the Address to ask the House of Commons to adopt an amendment expressing regret that no reference is made in the Queen's Speech to any measure of legislation designed to give effect to the recommendation of the Select Committee that legislative restrictions should be placed on all petroleum oil which has a flash point under 100° F

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub Editor not later than 9 o clock on the Thursday morning of each week for publication in the next number.*

ANNETT H E M B Ch B Vict. D P H has been appointed Demonstrator of Tropical Pathology in the newly founded School of Tropical Diseases in Liverpool

BERRY H POOLE M B Lond M R C S Eng has been re-appointed Medical Officer of Health to the Grantham Urban Sanitary District

BYERS J W M A, M D M A O (Hon Causa) Professor has been appointed Examiner in Midwifery to the Royal University of Ireland for one year

COLL, J M COATES M R C S has been appointed Clinical Assistant to the Chelsea Hospital for Women Fulham road London S W

COLLINS W J M S M D B Sc Lond F R C S Eng ex-Chairman of the London County Council has been appointed by the President of the Board of Agriculture to represent the Council on a Departmental Committee to inquire into the Diseases of Animals Act

DIMMOCK A F M D Durh M R C S Eng has been re-appointed Medical Officer to the Harrogate Cottage Hospital

FOWLER, G D P H Eng has been appointed Resident Medical Officer to the Finsbury Dispensary vice *J A O Briggs* resigned

HEATH A. F R C S Eng M B Lond. L R C P M R C S has been appointed Medical Officer for the Sparham Sanitary District of the Mitford and Launditch Union

KEVIN BYRNE P M D B S B A. M R C S L R C P has been appointed Medical Officer to the Christ Church District of the Parish of St Marylebone London vice Norman Kerr resigned

KIRBY S J J M D Brux L R C P Edin M R C S Eng has been appointed Medical Officer for the Fressingfield Sanitary District of the Hoxne Union

LEA J W F R C S Eng has been appointed Medical Officer for the Newton Abbot Cottage Hospital, District and Workhouse vice J C Cross, resigned

MAYSTON R W M B Lond M R C S Eng L R C P Lond has been appointed House Physician to the Seamen's Hospital (*Dreadnought*) Greenwich

Morrison, A. C., M.B., C.M. Glasg., has been appointed Medical Officer for the Larkhall District by the Dalserf Parish Council.

Ozanne, F. N., L.R.C.P. Lond., M.R.C.S. Eng., has been re-appointed Medical Officer to the Harrogate Cottage Hospital.

Pronger, C. E., F.R.C.S. Eng., L.R.C.P. Lond., has been re-appointed Medical Officer to the Harrogate Cottage Hospital.

Richmond, S., M.D. Edin., M.R.C.S. Eng., has been appointed Medical Officer of Health by the Dartford Rural District Council.

Rose, Horace, L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon-in-Ordinary to the Royal Bucks Hospital, Aylesbury.

Shaw, J., M.D. Glasg., D.P.H., has been appointed Medical Officer for the Seventh Sanitary District of the Aylesbury Union.

Thomson, J. W., M.B., Ch.M. Aberd., has been appointed Senior House Surgeon to the Clayton Hospital and Wakefield General Dispensary.

West, Waldemar S., M.A., M.D., B.C. Cantab., has been appointed Surgeon to the Royal Buckinghamshire Hospital, Aylesbury.

Williams, N., M.B. Cantab., M.R.C.S., has been re-appointed Medical Officer to the Harrogate Cottage Hospital.

Wood, Richard, M.D. St. And., M.R.C.S. Eng., has been re-appointed Medical Officer of Health by the Driffield Urban and Rural District Councils.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

Bristol Royal Infirmary.—Resident Obstetric Officer, for one year. Salary £40 per annum, with board, lodging, and washing.

Clayton Hospital and Wakefield General Dispensary, Wakefield.—Junior House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

Colonial Office, London.—Medical Officers for temporary service on the Gold Coast, for one year. Unmarried. Salary at the rate of £350 a year, with quarters, or an allowance in lieu thereof. Also Medical Officers for the West African Frontier Force on the Niger. Apply personally to the Assistant Private Secretary at the Colonial Office.

County Hospital, Ryde.—House Surgeon. Salary £50 per annum, with board, lodging, &c.

County of Lanark.—Assistant Medical Officer of Health. Salary, commencing at £130 per annum, is paid by the County Council. Applications to Dr. Wilson, County Medical Officer, Hamilton, N.B.

Dalrymple Home for Inebriates, Rickmansworth. — Resident Medical Superintendent, married. Salary £200 per annum, unfurnished house, food, coals, gas, &c., provided.

Devizes Urban District Council.—Medical Officer of Health. Salary £50 per annum. Applications to the Town Clerk, Town Clerk's Offices, Devizes.

Farringdon General Dispensary, 17, Bartlett's-buildings, Holborn-circus, London.—Resident Medical Officer. Salary £100 per annum, with apartments and attendance.

General Hospital, Birmingham.—House Physician, for one year. Salary £70 per annum, with residence, board, and washing.

Hereford General Infirmary.—Assistant House Surgeon and Dispenser for two years; unmarried. Salary £75 per annum, with board, residence, and washing.

Hertfordshire County Asylum, Hill End, St. Albans.—Assistant Medical Officer, unmarried. Salary £130 per annum for the first year, rising to £150 per annum after one year's service, with furnished quarters, board, washing, and attendance.

Hospital for Sick Children, Great Ormond-street, Bloomsbury, London.—House Surgeon to Out-patients *for six months.* Salary 25 guineas.

Kent County Lunatic Asylum, Barming Heath, near Maidstone.—Fourth Assistant Medical Officer and Pathologist for two years; unmarried. Salary £175 per annum, rising £5 a year, with furnished quarters, attendance, coal, gas, garden produce, and washing. Applications to the Superintendent, Barming Heath Asylum, Maidstone.

Liverpool School of Tropical Diseases in connexion with University College, Liverpool, and the Liverpool Royal Southern Hospital.—Lecturer in Tropical Diseases. Salary £250 a year and proportion of students' fees, with the right of private practice, will be granted. Applications to Professor Boyce, University College, Liverpool.

Miller Hospital and Royal Kent Dispensary, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary at the rate of £30 per annum, with board, attendance, and washing.

Norfolk and Norwich Hospital, Norwich.—House Surgeon for two years, unmarried. Salary £80 per annum, with board, lodging, and washing.

Royal Albert Hospital, Devonport.—Assistant House Surgeon for six months. Board, lodging, and washing provided.

Royal London Ophthalmic Hospital, Moorfields, E.C. Physician.

Royal Surrey County Hospital, Guildford.—Resident House Surgeon. Salary £80, with board, residence, and laundry. Also Assistant House Surgeon. Salary £30, with board, residence, and laundry.

Salford Royal Hospital.—House Surgeon for twelve months. Salary £100 per annum, with board and residence.

Salisbury Infirmary.—Assistant House Surgeon, unmarried. Honorarium of £10 will be given at the end of each six months if found satisfactory. Board, lodging, and washing provided.

St. Mark's Hospital for Fistula and other Diseases of the Rectum, City-road, London.—House Surgeon. Salary £50 per annum, with board and lodging.

Staffordshire General Infirmary, Stafford.—Assistant House Surgeon. Salary £30 per annum, with board, lodging, and washing.

Taunton and Somerset Hospital, Taunton. — Assistant House Surgeon, for six months. Board, lodging in the hospital, and washing provided.

University College, Sheffield.—Demonstrator in the Bacteriology Laboratory. Salary £150.

University of Glasgow.—Chair of Pathology. The normal salary of the Chair is fixed by Ordinance at £1100.

Victoria Hospital for Children, Queen's-road, Chelsea, S.W.—House Physician, for six months. An honorarium at the rate of £50 per annum given, and board and lodging in the hospital provided.

Wolverhampton and Staffordshire Hospital, Wolverhampton.—Assistant House Surgeon, for six months. An honorarium at the rate of £50 per annum given at the end of that term. Board, lodging, and washing provided.

Births, Marriages, and Deaths.

BIRTHS.

Adams.—On Feb. 2nd, at Gipsy-road, West Norwood, the wife of C. R. Adams, M.R.C.S., of a son (stillborn).

Clark.—On Feb. 1st, at Norton-road, Hove, the wife of Arthur D. Clark, L.R.C.P. and S., of a daughter.

Crooke.—On Jan. 23rd, at Westbourne, King-street, Egremont, Cheshire, the wife of William Crooke, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

Cunnington.—On Feb. 5th, at West-end-lane, N.W., the wife of C. W. Cunnington, M.R.C.S., of a daughter.

Evans.—On Feb. 1st, at Littleport, Cambs, the wife of Harold W. Evans, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

Gillbard.—On Jan. 28th, at Falkland, Brighton-road, Sutton, Surrey, the wife of R. Gillbard, M.R.C.S., L.R.C.P., of twin sons.

Lees.—On Feb. 4th, at Somersham, Hunts, the wife of Charles Archibald Lees, M.R.C.S., L.R.C.P., of a son.

Nash.—On Feb. 5th, at Clavering House, Bedford, the wife of W. Gifford Nash, F.R.C.S., of a son.

Osborn.—On Feb. 7th, at the Chalet, Dover, the wife of Arthur Osborn, M.R.C.S. and L.R.C.P., of a daughter.

MARRIAGES.

Cocking—Birks.—On Feb. 9th, at the Parish Church, Sheffield, by Rev. James Henry, F.R.G.S., Vicar of St. Bartholomew's, Birmingham, brother-in-law of the bride, assisted by Rev. W. Bracewell, M.A., Curate of the Parish Church, Wm. Tusting Cocking, M.D. Lond., to Alice Mary, youngest daughter of Edward Birks, Birchcliffe, Broomhall Park, Sheffield.

Cooper—Knapp.—On Feb. 4th, at St. Mary's, The Boltons, Ernest Frederic Cooper, F.R.C.S., to Mabel Rosamund, third daughter of George Wyatville Wynford Knapp, formerly of 63rd (Manchester) Regiment.

Darling—Smaill.—On Feb. 8th, at St. John's Free Church, Edinburgh, by the Rev. George Philip, D.D., Thomas Brown Darling, M.D., The Hawthorns, Merchiston-place, Edinburgh, to Elizabeth Dunlop, second surviving daughter of the late George Barclay, merchant, and widow of W. R. Smaill, Edinburgh.

Kerr—Blythman.—On Jan. 31st, at All Saints' Church, Wath-on-Dearne, by the Rev. Arthur Blythman, rector of Shenington, Banbury (uncle of the bride), assisted by the Rev. W. Y. Peacey, Vicar of Swinton, Dr. W. S. Kerr, of Sheffield, to Edith Mary, eldest daughter of Dr. C. S. Blythman, of Swinton, near Rotherham.

Lockyer—Coombs.—At Trinity Church, Clifton, Bristol, Cuthbert Lockyer, M.D., B.S. Lond., M.R.C.P. Lond., F.R.C.S. Eng., 20, Devonshire-street, Harley-street, W., to Minnie Marie Coombs, only daughter of Robert Coombs, Esq., Cote Grange, Westbury-on-Trym, Gloucestershire. "At Home," Imperial Hotel, Clifton Feb. 7th, 1899.

DEATHS.

Hall.—On Feb. 4th, at Albion-street, Lewes, Frank Algernon Hall M.R.C.S., in his 52nd year.

Iles.—On Jan. 31st, at his residence, The Retreat, Fairford Daniel Iles, M.R.C.S., aged 57.

Knight.—On Jan. 27th, at The Parsonage, Rainham, Kent, John Sladen Knight, M.D., M.R.C.P., aged 78.

Macaulay.—On Feb. 4th, at Ashfield, Halifax, Madge, the dearly beloved wife of D. J. Macaulay, M.D. Brux., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg.

Morrison.—On Feb. 1st, at St. Mary's Hospital, London, Henry Morrison, Surgeon, of Hounslow, Middlesex, aged 76.

Turner.—On Feb. 2nd, at South-street, Greenwich, Reuben Turner, L.R.C.P., L.R.C.S. Irel., aged 44 years.

Walker.—On Feb. 1st, at Newton Heath, Manchester, Alexander Walker, M.D., aged 49 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS

METROPOLITAN HOSPITALS

MONDAY (13th) —London (2 P M) St Bartholomew's (1 30 P M) St. Thomas's (3 30 P M) St Georges (2 P M , Ophthalmic 1 15 P M) St. Marys (2.30 P M) Middlesex (1 30 P M) St. Marks (9 30 A M) Chelsea (2 P M) Samaritan (Gynæcological, by Physicians, 2 P M) Soho-square (2 P M) Royal Orthopædic (2 P M), City Orthopædic (4 P M), Gt Northern Central (2.30 P M), West London (2.30 P M), Westminster (2 P M) London Throat (2 P M)

TUESDAY (14th).—London (2 P M) St Bartholomew's (1 30 P M) Guys (1 30 P M), St. Thomas s (3 30 P M) Middlesex (1 30 P M) Westminster (2 P M) West London (2 30 P M) University College (2 P M) St. Georges (1 P M) St Mary's (1 P M) St. Marks (2.30 P M) Cancer (2 P M) Metropolitan (2.30 P M.) London Throat (2 P M and 6 P M) Royal Ear (3 P M)

WEDNESDAY (15th) —St. Bartholomew s (1 30 P M) University College, (2 P M) Royal Free (2 P M), Middlesex (1 30 P M), Charing-cross (3 P M) St Thomas s (2 P M) London (2 P M), King's College (2 P M) St. Mary s (2 P M) National Orthopædic (10 A.M) St. Peter's (2 P M) Samaritan (2.30 P M) Gt. Ormond street (9.30 A M) Gt. Northern Central (2.30 P M) Westminster (2 P M), Metropolitan (2 30 P M) London Throat (2 P M) Cancer (2 P M)

THURSDAY (16th) —St. Bartholomew s (1 30 P M), St Thomas s (3 30 P M) University College (2 P M) Charing-cross (3 P M) St George s (1 P M), London (2 P M) King s College (2 P M) Middlesex (1 30 P M) St. Mary s (2.30 P M), Soho-square (2 P M) North West London (2 P M) Chelsea (2 P M), Gt. Northern Central (Gynæcological 2 30 P M) Metropolitan (2.30 P M) London Throat (2 P M)

FRIDAY (17th) —London (2 P M) St Bartholomew s (1.30 P M) St. Thomas s (3 30 P M) Guys (1 30 P M), Middlesex (1 30 P M) Charing-cross (3 P M) St. George s (1 P M) King s College (2 P M) St. Mary s (2 P M , Ophthalmic 10 A.M), Cancer (2 P M) Chelsea (2 P M) Gt Northern Central (2.30 P M) West London (2. 30 P M), London Throat (2 P M and 6 P M)

SATURDAY (18th) —Royal Free (9 A M and 2 P M) Middlesex (1 30 P M), St. Thomas s (2 P M) London (2 P M) University College (9 15 P M) Charing-cross (3 P M) St. George s (1 P M) St. Mary s (10 P M) London Throat (2 P M)

At the Royal Eye Hospital (2 P M) the Royal London Ophthalmic (10 A.M) the Royal Westminster Ophthalmic (1 30 P M) and the Central London Ophthalmic Hospitals operations are performed daily

SOCIETIES

MONDAY (13th).—MEDICAL SOCIETY OF LONDON —8 30 P M Clinical Evening Mr W Cheyne: Two Cases of Operation for Coxa Vara.—Dr R Maguire (1) Case of Recovery from Operation for Cerebellar Abscess, (2) Case of Hysterical Spasm —Dr StC Thomson: Case of Pharyngomycosis Leptothricia in a man aged 38 years —Dr H Mackenzie (1) Case of Grave s Disease in a Male, (2) Case of Large Thoracic Aneurysm —Mr F C Wallis Case of Simple Comminuted Fracture after Operation —Mr W Low Case of Dislocation of the Humerus with Fracture of the Great Tuberosity —Dr W Ewart and Mr R Emmett Case of Hepatic Cirrhosis with Chronic Jaundice and Splenomegaly in a Lad the subject of Congenital Syphilis —Dr S West: Case of Acromegaly

TUESDAY (14th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20 Hanover-square, W) —8 30 P M Paper —Dr F W Hewitt On the Effects produced in the Human Subject by the Administration of Definite Mixtures of Nitrous Oxide and Air and of Nitrous Oxide and Oxygen

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (17 Bloomsbury square W C) —8 P M Prof J R. Green: Adverse Conditions and their Remedies in the Life of Plants

WEDNESDAY (15th).—ROYAL MICROSCOPICAL SOCIETY (20 Hanover-square W) —7 30 P M Mr J Rheinberg: Exhibition of Objects shown by Multiple Colour Illumination 8 P M Meeting

NORTH WEST LONDON CLINICAL SOCIETY (North West London Hospital) —8 30 P M Discussion on the Relation of Gout to Rheumatoid Arthritis (Opened by Dr W Ewart.)

SOCIETY OF ARTS —8 P M Rev J M Bacon The Balloon as an Instrument of Scientific Research

ROYAL METEOROLOGICAL SOCIETY (Institution of Civil Engineers Gt George-street, Westminster S W) —7.30 P M Ordinary Meeting Papers —Mr E Mawley Report on the Phenological Observations for 1898 —Prof W M Davis: The Circulation of the Atmosphere

THURSDAY (16th) —HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road) —8.30 P M Dr A Whitfield Varieties of Eczema and their Treatment.

FRIDAY (17th) —EPIDEMIOLOGICAL SOCIETY OF LONDON (11 Chandos street Cavendish square W) —8 30 P M Meeting

SOCIETY OF ANÆSTHETISTS (20 Hanover-square, W) —8.30 P M Papers and Communications by Dr Flux Mr B Gardner Mr T G A Burns Mr McCardie Mr H Hilliard Mr A. Granville

LECTURES ADDRESSES DEMONSTRATIONS, &C

MONDAY (13th).—WEST LONDON POST-GRADUATE COURSE (West London Hospital W) —5 P M Mr S Paget: Demonstration of Methods of Examining the Ear and of Aural Instruments

TUESDAY (14th) —ROYAL COLLEGE OF SURGEONS OF ENGLAND —4 P M Sir W MacCormac: Hunterian Oration

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck st. W) —4 P M Dr H Campbell: Cases of Facial Paralysis

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury) —3 30 P M Dr Tooth: Cranial Nerves (lantern demonstration)

ROYAL INSTITUTION OF GREAT BRITAIN —3 P M Prof E Ray Lankester: The Morphology of the Mollusca.

WEDNESDAY (15th) —EVELINA HOSPITAL (Southwark Bridge-road S E) —4 30 P M Mr A. H Tubby Clinical Demonstration on Surgical Cases (Post-Graduate Course)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton) —4 P M Dr Kidd: Pleurisy

THURSDAY (16th).—CHARING-CROSS HOSPITAL.—4 P M Dr Green Cases in the Wards (Post-Graduate Class)

LONDON TEMPERANCE HOSPITAL.—2 P M Dr S Fenwick Clinical and Pathological Demonstration to Senior Students.

THE HOSPITAL FOR SICK CHILDREN (Gt Ormond-street W C —4 P M Dr Voelcker: Demonstration of Selected Cases

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W) —5 P M Mr S Paget: Demonstration of Methods of Examining the Ear and of Aural Instruments

ROYAL INSTITUTION OF GREAT BRITAIN —3 P M. Dr A. Macfadyen Toxins and Antitoxins

SATURDAY (18th).—ROYAL INSTITUTION OF GREAT BRITAIN —3 P M Right Hon Lord Rayleigh: The Mechanical Properties of Bodies

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Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICES

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* ' TO THE EDITORS,' and not in any case to any gentleman who may be *supposed to be connected with the* Editorial staff It is urgently necessary that attention be given to this notice

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters, whether intended for insertion or for private information must be authenticated by the names and addresses of their writers, not necessarily for publication

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed To the Sub Editor '

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed " To the Manager*

We cannot undertake to return MSS not used

MANAGER S NOTICES

THE INDEX TO THE LANCET

THE Index to Vol II of 1898, which was completed with the issue of Dec 31st, and the Title page to the Volume, were given in THE LANCET of Jan 7th

VOLUMES AND CASES

VOLUMES for the second half of the year 1898 are now ready Bound in cloth, gilt lettered, price 18*s* , carriage extra

Cases for binding the half year s numbers are also ready Cloth gilt lettered, price 2*s* by post 2*s* 6*d*

To be obtained on application to the Manager, accompanied by remittance

TO SUBSCRIBERS

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their *Office* 423 Strand W C , are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) *do* not reach THE LANCET Offices, and consequently inquiries concerning missing copies &c , should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET *Offices*

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THE SLOCUM METHODS.

The *New York World* is not a nice paper. It is one of the papers whose recent developments far exceed in vulgarity and stupidity anything that Dickens ever imagined in his portraits of Mr. Jefferson Brick and that warlike person's employers; and not so long ago we learn from the current issue of "Sell's Dictionary of the World's Press," it was excluded from the Century Club of New York, as well as from the files of certain public libraries. The following effusion is printed in the New Year's day edition of this paper, and we reproduce it because it forms a good example of the way in which an unscrupulous management can prostitute a paper. Of course the article is an advertisement, but it is printed as though it were editorial matter, so that all connected with the issue of the paper are damaged in their reputation for truth and decency, for the thing has the appearance of being written by any of them upon editorial instruction.

> WALES' PHYSICIAN ON CONSUMPTION.
>
> *Sir William Broadbent says Consumption Is Contagious and Curable—Not Hereditary.*
>
> AGREES WITH SLOCUM METHODS.
>
> *At a Meeting in London the Prince of Wales' Physician Fully Confirms Dr. Slocum's Teachings on This Disease.*
>
> LONDON, Dec. 31st.—A meeting of the National Society for the Prevention of Consumption and Other Forms of Tuberculosis held at Marlborough House, Dec. 20, was presided over by the Prince of Wales and addressed by Lord Salisbury and Sir William Broadbent, Physician to the Prince of Wales.
>
> Dr. Broadbent adheres to the view that consumption is not a hereditary but a contagious disease, and is therefore curable by a treatment which will destroy the germs and build up the system.
>
> He thus agrees with Dr. Slocum in every particular and his address is a practical indorsement of the system of treatment followed out so successfully by this well-known American practitioner.
>
> Dr. Slocum felt sure, when he first announced his theory, based on scientific experiments and practice, that consumption is a germ disease and not a hereditary taint, that the whole medical world would in time acknowledge that he was right.
>
> In Sir William Broadbent Dr. Slocum has an ally who will be of great assistance in teaching the people the real nature of consumption, its prevention and its cure.
>
> The first thing necessary, as these two great physicians show, is the killing of the germs of the disease and then the strengthening and building up of the system.
>
> This is just the system upon which the Dr. Slocum New Treatment for Consumption, Lung Weakness, and the Grip is based. *The germs of consumption, grip, &c.*

The article ends by recommending any one suffering from a wasting chronic complaint to call at the Doctor Slocum Laboratories, 98, Pine-street, New York. We have recently had in our articles upon "Quacks and Abortion" to comment very severely upon the laxity which allowed the management of many English journals to accept the dirty money of the persons who advertise remedies for "Female Obstructions of Whatever Kind," but at any rate these things were frankly advertisements. The claims as to the efficacy of the nostrums were made by the proprietors of the recipes and bore no appearance of being put forward editorially. Here, in the specimen of advertisement which we have given, the influence of the *New York World* is thrown into the scale on the side of the quack. This is a very different position and one which we venture to hope will never be taken up by any considerable or important section of the British press. There are papers published in London which make no secret of their animosity to the medical profession, but even when certain of them were placing before their readers the disgusting offers of Madame Frain, Lady Montrose, and the other advertisers of the same kidney, they one and all abstained from backing up the quackery to which they gave publicity by editorial pronouncements, spontaneous or purchased. But while we are thanking God that our papers are not as this American paper, let us not forget that until recent events scared or shamed them from earning ill-gotten gains, many of our journals were in receipt of large and regular sums from persons who were either abortion-mongers or obtainers of money upon false pretences or both. This situation must not arise again and medical men should be particularly concerned in ensuring this. Therefore if our readers see a suspicious advertisement in their local papers, or any advertisement of the most perfect superficial innocence but emanating from one of the quacks whom we have recently exposed, we hope they will send us a marked copy of the paper that we may take the proper steps.

HOMES FOR EPILEPTICS.

J. E. N.—Our correspondent might apply to the Meath Home of Comfort, Westbrook, Godalming. There is also the Colony for Epileptics at Chalfont St. Peter, the London offices of which are at 12, Buckingham-street, W.C.

THE DISPENSING FATALITY AT STOCKPORT.

In this case a patient died after taking a dose of a medicine dispensed by an unqualified dispenser upon, we must say, a most carelessly given prescription. The prescription in question was partly verbal and partly written. The dispenser at the inquest said that "morphia a drachm and a half" was ordered. The prescriber had meant solution of morphia but the dispenser took it to mean the pure alkaloid or its salt. He however only put in 30 grains because he had no more. Mr. Glyn-Jones, a member of the Pharmaceutical Society, has written to us "to emphasise the need for requiring a legal qualification from those engaged in the dispensing of poisons, whether in doctors' surgeries or chemists' shops. It may not be expedient to adopt the continental system by which doctors are not allowed to dispense their own medicines, but it ought to be easy to enact that the assistant employed by the doctor to dispense should be either a legally qualified medical man or a chemist. Such an enactment would be not only in the public interest, but would also work greatly to the advantage of the medical profession. It would be difficult to run cheap dispensaries if qualified dispensers had to be employed. If it was required that the dispenser employed should have a legal qualification the demand for qualified medical assistants would be considerably augmented. Apart, however, from the interests of the prescriber and dispenser there can be no doubt that the public are entitled to have their medicines dispensed by efficient assistants and to know that such efficiency has been vouched for by a legal qualification." We think Mr. Glyn-Jones's suggestion is a wise one. The unqualified dispenser is almost as dangerous as the unqualified medical man.

BODILY EXERCISE.

To the Editors of THE LANCET.

SIRS,—Can you or any of your readers tell me of a recent work on the physiology of bodily exercise or the therapeutics of exercise, or a work bearing on this subject?

I am, Sirs, yours faithfully,

N. H.

Jan. 23rd, 1899.

P.S.—I have read Lagrange's work.

*** The subject is dealt with in "The Elements of Physical Education," by David Lennox, M.D., and Alexander Sturrock. Blackwood. 4s.—ED. L.

"THE STYLE OF PHYSICIAN."

To the Editors of THE LANCET.

SIRS,—As a Doctor of Medicine without a diploma from a College of Physicians I have always held I should be wrong to term myself a "physician," and in the witness-box have denied when asked or it has been suggested that I am one. I should like to be informed whether that attitude is correct and if I should permit myself as now to be called a consulting physician (what other designation would do?) to an institution. *It seems to me the only persons who can properly term themselves* "physicians" are those who possess a College of Physicians diploma and that anyone else using that title is deceiving the public and could be proceeded against for illegal assumption of a diploma. I may be wrong and am open to conviction and wish to know whether a Doctor of Medicine only is legally a physician.

I am, Sirs, yours faithfully,

S. H.

Jan. 31st, 1899.

THE CASE OF WICKHAM *v.* PAYNE.

In this case recently tried in the Probate Division the plaintiff, Mrs. Wickham, claimed revocation of the will of her brother, alleging that the residuary clause had been obtained by the undue influence of the defendant's husband, Mr. Frank Cobham Payne. Mrs. Wickham's brother was a Dr. Tonkin and Mr. Payne is also a medical man. We need not go into all the allegations made by Mrs. Wickham for they were of a most disgraceful nature, but we will only say that the jury (the plaintiff's counsel having withdrawn from the case) found for the defendant—that is to say, they found practically that Mr. Payne was perfectly innocent of all the horrible crimes attributed to him although the legal defendant was his wife. We heartily congratulate Mr. Payne upon the result of the trial.

DOES ASPIRATION OF AIR THROUGH CHLOROFORM RENDER IT INERT AS AN ANÆSTHETIC?

To the Editors of THE LANCET.

SIRS,—When using a Krohne and Sesemann inhaler I find that it is practically impossible to get a patient under the influence of chloroform which has previously been used, it having had a large amount of air pumped through it. We say So-and-so has only taken two drachms of $CHCl_3$ during the operation, but it will be found that the remainder of the chloroform left in the bottle is practically, if not wholly, inert. At least, that has been my experience and I would like to hear if it has been the experience of anyone else. Is this failure of the anæsthetic due to (*a*) the impurities which have been pumped into it from the air or (*b*) has the chloroform become chemically altered by the same agency? A chemical analysis would clear up this latter point. Is there anyone who will undertake it? Thanking you for inserting this.

I am, Sirs, yours faithfully,

J. AUSTIN BRAITHWAITE.

Tynemouth Hospital, Dec. 2nd, 1898.

*** We have consulted many of those who employ Junker's inhaler (Messrs. Krohne and Sesemann's pattern) and find they have not observed any change in the chloroform after use. The tests given in the British Pharmacopœia, 1895 edition, p 75 will demonstrate any impurities in the chloroform employed. These tests are easily performed, but if they do not satisfy Mr. Braithwaite we suggest he should collect his residues after several operations, and when he has obtained some ounces he should send them to the original makers of the chloroform which he uses and request their chemists to report upon the sample If he will send us such residues we will analyse them for him with pleasure Good chloroform we need hardly say, should not undergo any change after air is pumped through it.—ED L.

THE APPOINTMENT OF PUBLIC VACCINATORS: AN ETHICAL QUESTION

WE publish these letters at the request of Mr Mackenzie and on the whole believe it may be for the good of the profession that such subjects should be publicly discussed:—

Foulby Wakefield, Dec 2nd, 1898

DEAR MACKENZIE,—Would you have any strong objection to my applying to the guardians for the public vaccinations in Crofton and Sharlston? The population of Crofton is three or four times greater than it used to be, and Sharlston also is considerably increased. The two would make one good district which might be sanctioned by the L G B

I am very busy, otherwise I would come over and see you about it Give us young uns a chance!

Yours very truly

J M HERMON

Normanton, Dec. 4th 1898

DEAR HERMON,—Thanks for letter of 4th I shall have a very strong objection on personal as well as professional grounds Have you seen the L G B Order? It proposes entirely new duties for public vaccinators of a police nature and they are going to give us 1s for what the ordinary "bobby" would get at least 3s 6d

We public vaccinators are now struggling to improve this, not only for our own sakes but for those that come after us and for any outsider to apply for any part of our appointments at this crisis would, to say the least, be scandalous and most of the profession would look at it as infamous—and you may be *quite sure* if any man comes between me and the guardians he will have a warm time of it Yours sincerely,

W S MACKENZIE

P S —I shall be delighted to see you at any time and open your eyes on the subject

Foulby, Wakefield, Dec 13th, 1898

DEAR MACKENZIE,—I have asked the opinion of some of my neighbouring medical friends about the vaccination question and all have agreed that considering that I live in one of the parishes in question and attend probably nine out of every 10 families in the other and have lived here for five years already I am not doing anything either scandalous or infamous nor unprofessional, I therefore intend to apply to the guardians and in doing so I feel that in one respect I am like you—viz, I am making the application not so much for myself as for whoever may follow me in work here, as it seems unlikely and unfair that the whole of Crofton shall have its public vaccinator living at Normanton, more than four miles away I thought it better to tell you this as until hearing the opinions mentioned I had given up the thought of applying Meantime yours very truly

J M. HERMON

The Orchard Normanton, Dec. 17th 1898

DEAR HERMON,—On returning from a short holiday I find yours of 13th Do you mean to say you have submitted to medical friends the question whether you are or are not to apply for an appointment which I have held for about 20 years, which I hold now, and have no intention of resigning, and that they approve of your applying for it? No medical man in this district will dare to say so to me in front of his medical neighbours.

They must have been *pulling your leg* I never heard of anything more unprofessional and intend to publish the correspondence but will wait a few days for your reply

Your plea that it is not f r th t Cro ton should have its public vaccinator four miles aw y is too ridiculous, the few minutes it takes me to go to Crofton i no great tax upon any man's time as long as he is willing An it is all the same to Crofton people where the public va cinato l es Yours faithfully,

Dr Hermon, Foulby W S MACKENZIE.

Foulby, Wakefield, Dec. 20th 1898

DEAR MACKENZIE,—I understand that at the next meeting probably of the guardians th wh le question of vaccination districts is to be considered so I w ll n t find it necessary to make a direct application

I should imagine that the *personal* objection weighs with you more than the *p o e sional* one but the whole tone of both your letters is of such a bullying nature that I cannot take them as being seriously meant I think your letters would not look well in print, but you can print them if you like I have no objection

Yours very truly,

J M HERMON

P S —Of the medical men I consulted two are Public Vaccinators

The *Wakefield Express* of Jan 7th contains a report of the meeting of the Wakefield Board of Guardians at which a le er was read from Dr Hermon offering his services as public vaccinator for Crofton and Sharlston and suggesting the formation of a new district, so that Dr Hermon has evidently reconsidered his decision that he would not find it necessary to make his application directly We think it unfortunate under any circumstances for a medical man to seek a post which is held by another medical man and therefore regret that Dr. Hermon should have made his application, to which, by the way, the board of guardians, instructed by their clerk, found that they were unable to accede We would at the same time point out that Dr Hermon informed Mr Mackenzie of his wishes before making the application, so that the element of secrecy which we have had several times to condemn strongly is absent in this case Again, Mr Mackenzie's tone in his letters is unfortunate, so much so that we can understand Dr Hermon's inclinations running rather towards disobeying than towards obeying the wishes of his senior *confrère*

THE REICHARDT FUND

To the Editors of THE LANCET

SIRS,—Dr Goodhart and I have to acknowledge the receipt of the following contributions on behalf of this fund We beg to remind the very many members of the profession who are interested in the home treatment of mental disorders that very few have so far contributed in aid of this fund I am, Sirs, yours faithfully,

3, Henrietta street, W, Feb 6th 1899 GEO H SAVAGE

	£	s	d
Dr James F. Goodhart	10	10	0
Sir John Williams, Bart	5	5	0
Mr Henry T Butlin	5	0	0
Mr Herbert H. Page	3	3	0
Dr Albert L Tebb	2	2	0
Mr C B Lockwood	2	2	0
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Mr F M Corner	1	1	0
Mr W H Roots	1	1	0
Mr C H Broadhurst	1	1	0
W. B J	0	10	6

◆

Cottage —So far from the action being unprofessional it *may* be almost a professional duty We speak from the facts supplied, we do not know the population of the district or how far other medical men may be affected, or what arrangements it is proposed to make for an honorary medical staff

Querist —(1) A medical man should not act in consultation with an unqualified person under any circumstances or attend cases where such a person is in any way responsible for the treatment, (2) THE LANCET, April 4th, 1896, p. 961

L.R C S Edin —The fares are paid of gentlemen who come on approval If an assistant accepts an offer of engagement we do not think it is usual to pay him his travelling expenses

L.F C P, &c —"Psycho therapeutics" by Dr C Lloyd Tuckey, and "The Practice of Hypnotic Suggestion," by Dr G C Kingsbury, might be consulted

C S, M D —Certainly the letter is in very poor taste But we think it preferable not to notice it.

METEOROLOGICAL READINGS.

(Taken daily at 8 30 a.m. by Steward's Instruments)

THE LANCET Office, Feb 9th, 1899.

Date		Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain-fall	Solar Radia in Vacuo	Maximum Temp Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 a.m.
Feb	3	29·81	N	...	54	41	32	32	33	Hunter
"	4	29 99	E		74	43	30	31	32	Foggy
"	5	29 51	N E	0 40	43	40	31	38	38	Raining
"	6	29·74	S E	0 04	47	47	37	38	40	Cloudy
"	7	29 48	S W	0 28	76	56	38	46	47	Overcast
"	8	29 48	S W	0 13	56	55	47	49	51	Overcast
"	9	29 50	S W	0·27	64	55	49	48	50	Cloudy

During the week marked copies of the following newspapers have been received: *Aberdeen Journal, Lancaster Guardian, Manchester Guardian, Leeds Mercury, Derbyshire Times, Architect, Citizen, Scotsman, Times of India, Pioneer Mail, Builder, Yorkshire Post, Eastern Morning News, Liverpool Daily Post, Bristol Mercury, Brighton Gazette, Hampshire Telegraph, Notes and Queries, Fleetwood Express, Punch, Shields Daily Gazette, Sanitary Record, East Anglian Daily Times, Nottingham Guardian, Birmingham Daily Gazette, West Ham Guardian Sheffield Daily Telegraph, London Express and Star, Local Government Chronicle, Reading Mercury, City Press, Surrey Advertiser, Mining Journal, Hertfordshire Mercury, Public Health, Local Government Journal, Kentish Mercury, Cheltenham Examiner, Undertakers' Journal, Indian Daily News, Inventions, Chemist and Druggist, Nature, Health, Christian, Loughborough Examiner, Licensed Victuallers' Gazette, Irish News, Merthyr* acrid persuas dead languages t never knew in a *Courant, Huddersfield Examiner, Isle of Man Times, Hexham Herald, Sunderland Morning Mail, Warder,*

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X.—X. Y. Z.

Y.—Dr. R. A. Yeld, Lond.

Z.—Zeta.

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The Hunterian Oration.

Delivered at the Royal College of Surgeons of England on Feb. 14th, 1899,

By SIR WILLIAM MAC CORMAC, Bart.,
K.C.V.O., F.R.C.S. Eng. and Irel.,
SURGEON IN-ORDINARY TO HIS ROYAL HIGHNESS THE PRINCE OF WALES; KNIGHT OF GRACE, ORDER OF ST JOHN OF JERUSALEM; PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, CONSULTING SURGEON AND EMERITUS LECTURER ON CLINICAL SURGERY, ST. THOMAS'S HOSPITAL; CONSULTING SURGEON QUEEN CHARLOTTE'S HOSPITAL, FRENCH HOSPITAL, ITALIAN HOSPITAL, BRITISH LYING-IN HOSPITAL, AND ROYAL HOSPITAL, BELFAST.

Your Royal Highness, My Lords and Gentlemen,—In accordance with the terms of a deed establishing the Hunterian Oration we celebrate to-day John Hunter's name and fame. Born on Feb. 14th in the year 1728 at Long Calderwood, a small estate his father farmed, some eight miles from Glasgow, he died on Oct. 16th, 1793, in his sixty-fifth year, celebrated alike as a great surgeon, a profound biologist, and a man of genius. It is fitting that this College, the heir to Hunter's great collection, should take care for his memory, and one way in which this is done, however inadequately, is by means of the Hunterian Oration, delivered in this theatre in alternate years. Here, in view of this noble presentment of Hunter by the foremost painter of his time, the orator is called upon to praise its foremost surgeon. Hunter was a bad sitter and it was almost by an accident that Reynolds obtained the opportunity to paint this, one of his finest portraits. In the background are indicated the bones of O'Brien the Giant whom Hunter affectionately calls his "tall man," a preparation showing the vessels of the heart suggestive of his work on aneurysm, and three volumes of his manuscript notes. As we look at the picture, painted in 1785, when Hunter was 57 years old, we perceive him in deep reverie in one of those waking dreams to which he refers in his *lectures. He has* paused from writing in order to think out some problem and, as he often said, it was a delight to him to think. As we dwell upon the features we cannot doubt that a sudden inspiration has flashed upon and gradually pervaded his mind, some great scientific truth or generalisation which he has grasped and is pondering with intense satisfaction. Those eyes, full of the keenest intelligence, seem in eager quest of something far beyond the visible tokens of his work. We may imagine Hunter trying, perchance, to solve some hidden mystery of life or seeking to pierce the veil which hides from us the great unknown beyond. Buckle calls Hunter a genius whose only fault was an occasional obscurity in language and in thought. "It sometimes seems," he writes in his "History of Civilisation," "as if Hunter's understanding were troubled by the grandeur of its own conceptions and doubted the path it ought to take. Still, his powers were so extraordinary that among the great masters of organic science he belongs to the same rank as Aristotle, Harvey, and Bichat and is somewhat superior to Haller and Cuvier."

Early Life.

What, then, was the manner of man whom Buckle thus characterises? I would desire to present him to you as a yet surviving influence, to recall his very words, and to show him to you as he lived. To appreciate or even fully to comprehend the labours of Hunter one must strive to judge them from the standpoint of his time, for in this way only can we form a just conception of their splendid superiority. On Hunter's early life and the many moot points it involves—his preliminary education or the want of it, whether he was for a time a carpenter by trade, why he was not sent to learn the humanities at Glasgow College like his brothers, or why in later life he spent some time at Oxford University[1] without any apparent appreciation of the academic learning there offered to him—I do not propose to dwell. John Hunter was the youngest child of a family of 10 and the spoiled son of his mother. As a boy his pleasure was to ramble in the quiet woodlands, observe the ways of the living things he found there, collect the eggs of birds and compare them together. "I wanted to know," he tells us, "all about the clouds and the grasses and why the leaves change colour in the autumn; I watched the ants, bees, birds, tadpoles, and caddis-worms; I pestered people with questions about what nobody knew or cared anything about." Hunter's scientific career dates from his arrival in London in 1748 where, when 20 years of age, he joined his brother William's school as an ill-educated youth, new to all the amenities of life, brusque in manner and negligent in appearance, yet with a keen sense of physical enjoyment. As a pupil he showed a marvellous aptitude for anatomy and soon became a successful teacher of it, but he always remained a learner in that great book of nature which was ever open before him and whose pages, until he died 45 years later, he never ceased to turn, interpreting aright many of its obscurest passages.

It was thus that Hunter started on a career destined to mark deeply the history of his time. From the moment he began to work his industry was never-ceasing, his patience was extraordinary, and his capacity for unflagging effort was so sustained that it brought him step by step to a position which has earned for him the praise and admiration of his successors. In 1759, undermined in health by 10 years of incessant toil, he contracted an attack of pneumonia and his weakened constitution was threatened with phthisis. Recommended to take rest, he only changed one sphere of activity for another, and having obtained through his brother's influence an appointment as surgeon in the army he sailed (1761) with Keppel for Belle-Isle and afterwards accompanied the expedition into Portugal. It was there that he studied the phases of inflammation and the treatment of gunshot wounds. When he returned to London after peace was proclaimed (1763), with nothing but his half-pay to provide the wherewithal to live upon and nothing but his genius to trust to for advancement, Hunter's life became an extremely arduous one. He was able to do with little sleep, and from four or five in the morning until the breakfast hour he dissected, then he saw patients, visited the hospital, pursued his researches, worked at his note-books, and pondered the bearing of his observations till midnight. He was elected a Fellow of the Royal Society when 39 years of age, a year later became surgeon to St. George's Hospital, and in 177[illegible] was appointed surgeon-extraordinary to the King. In 1786 he was appointed deputy-surgeon-general [illegible] army and three years later became surgeon-general. He also published his work on Venereal Diseases in 1786 and the following year received the Copley Medal from the Royal Society on account of many valuable papers. His great work on the "Blood and Inflammation," however, still remained unfinished after thirty years of labour bestowed upon it and was only published after his death. At 50 years of age he had reached the zenith of his surgical career, having done more to improve the science of surgery than all the other surgeons of Europe had done before him. When Pott died Hunter became the chief surgical authority in London; his opinion was highly valued in all difficult cases and he acquired a lucrative practice. There is no doubt that he was an admirable clinical teacher and a courageous operator, and although his systematic lectures on surgery were marred by a faulty delivery and occasional obscurity of style they attracted all those who afterwards attained distinction amongst their contemporaries.

Lecturer and Collector.

Cline was 24 years of age when he attended Hunter's first course of lectures and they must have deeply impressed him, for he says that "although well acquainted with the opinions of the most distinguished surgeons then practising in London he found Mr. Hunter's lectures so far superior to anything he had conceived or heard before that there seemed no comparison between the great mind of the man who delivered them and all the individuals, whether ancient or modern, who had gone before him." We only possess an account circumscribed, not diffusing itself gradually and imperceptibly into the surrounding parts but terminating rather abruptly. Its base is hard and its edges a little prominent." A description which leaves little to be desired in the way of precision and accuracy.

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[1] At the outset of his career in London William Hunter desired that his brother John should be trained as a physician and sent him to Oxford to obtain the necessary classical education, but during the short period he spent there he found himself quite unable to study Latin and Greek and spoke afterwards rather contemptuously of the ancient learning. One might refer in illustration of this to what John Hunter remarked on one occasion of Jessé Foot, his spiteful biographer, who combines a very hostile criticism of everything Hunter said or did with acrid personal invective: "Jesse Foot accuses me of not knowing the dead languages but I could teach him that on the dead body which he never knew in any language, dead or living."

Hunter's observations in regard to gonorrhœa are clear-sighted and discriminating. He noticed that in the earlier stages of the malady the inflammation is restricted to the anterior portion of the urethra and that epididymitis is a late symptom. He observed that in gonorrhœa the vas may become obliterated, which he says will have no bad consequences if only one testicle be affected, as the other will *suffice* for all purposes. He thus anticipates the observations of Gosselin and Curling on aspermia from this cause.[2] Hunter describes the various forms of stricture in a graphic manner, points out that the bulbous portion of the urethra is more liable to the disorder than the whole of the urethra besides, and that *he never saw a stricture in the prostatic* portion of the urethra. He tells us that it happens generally, if not always, that gleet is associated with stricture and that this symptom often leads us to a knowledge of a stricture or at least affords a suspicion of its presence. In regard to treatment, he considers the cure of stricture can only be effected by local applications and that mercury has been given erroneously and without success. A surgeon should in general first make himself acquainted with the situation of the stricture by an ordinary-sized bougie and afterwards make use of a *smaller one*. Dilatation can be effected by the bougie but it is seldom more than a temporary cure. There is always remaining the original tendency to contraction and this recurs sooner or later.

His description of the use of bougies is full of practical interest. He mentions a new form as one of the greatest improvements in surgery and can scarcely persuade himself that in using it he is treating the same disease. He says: "When I was attending the first hospitals in this city in the year 1750 the common bougies were either a piece of lead or a small wax candle, and although the present bougie was then *known yet due preference* was not given to it nor its particular merit understood. A piece of the end of the leaden bougie sometimes broke off in the bladder and quicksilver was injected to dissolve it." There is in the [illegible] a series of bougies which belonged originally to Abernethy.[3] They are doubtless quite similar [illegible] copies of those to which Hunter alludes. His descriptions of the complications dependent on the presence of stricture are accurate and detailed. Extravasation of urine, perineal *fistula, false passage, abscess in* Cowper's glands, in the prostate, and peri-urethral abscess are fully described and dealt with. In treating of retention of urine, which he calls "suppression" he gives an account of tapping the bladder above the pubes through the rectum and by way of the perineum; he details the circumstances which, in his opinion, indicate the choice of method in a manner which could scarcely be improved in the pages of a modern text-book; and in describing perineal puncture of the bladder he goes very close indeed to the modern operations suggested by Sir John Simon and Mr. Wheelhouse.

INFLAMMATION.

Hunter dedicated his epoch-making treatise on the "Blood, Inflammation, and Gunshot Wounds" to the King and it is in many respects his most important work. It was planned after the reduction of Belleisle and the peace of 1763 upon the basis of notes and observations made during his 11 years' residence in London and on his experience of the inflammation that usually attended on gunshot wounds. In this work Hunter makes a bold attempt to enunciate the laws which govern life, not only in healthy but also in diseased conditions. He recognises that the *physiological* state of the organism does not pass abruptly into that of disease but by *a gradual transition*. No previous physiologist had adopted similar views and Hunter's clear insight into the processes at work in the animal body furnished a new departure in biological science, the value of his opinions being shown by the impression they produced upon every succeeding worker in the same field. Not only are the thoughts new but the language in which he formulates them had in many instances to be new also and was often, as might be expected, difficult to understand. Life he believed to exist in every part of the animal body susceptible of impressions which excite action. There is no part, he says, that does not possess more or less of this vital influence and the impressions thence arising produce infinite variety in all natural and diseased acts. "I cannot tell," he says, "*how far each part might possess* an equal quantity of life; but if we were to judge it by its power of action we should judge tolerably well. Disease would seem to give some intelligence with regard to this matter, but how far the resistance to disease and power of restoration depend on the power of life I cannot say. I believe it may be set down as a rule that those parts endowed with most action resist disease most strongly and in disease restore themselves most readily to a healthy state." This law has exceptions, yet it certainly applies in a large degree to all pathological changes. He regarded the blood as possessed of life like the more solid parts, and that it formed the bond of union between the structures divided in a wound. In what he calls "union by first intention" he recognised a process essentially different from that of inflammation. "In the adhesive inflammation," he says, "the vessels, being enlarged, begin to separate from the mass (of the blood) some portion of the coagulating lymph with some serum and also red globules, throw it out on the surface and cover the sides (of the wound) with cells, which easily unite with the opposite ones with which they are in contact, forming the first process of adhesion." He observed the vessels passing into and ramifying in the new material so that the vessel was plainly continued from the old into the new tissue. He further adds that "in many bruises as well as in simple fracture, where the cavities are not exposed, the inflammation in most of these cases is capable of being resolved. In parts which have been divided and exposed the inflammation is in a great measure controlled by bringing them together; or where parts are *not* brought together nature attempts to *prevent* inflammation by covering the wound with blood and forming an eschar. The adhesive inflammation serves as a check to the suppuration by making parts which would otherwise infallibly fall into that state previously unite in order to prevent its access."

The views and principles he thus formulated are essentially correct; they have served as a foundation for subsequent wide-reaching investigation and form the basis of subcutaneous surgery and the treatment of wounds which, *previously* kept open, *Hunter* sought to close. After describing what he terms "true suppuration" which he contends is the result of inflammation *only* he goes on to speak of swellings without the usual symptoms of inflammation often containing collections of *matter* resembling suppuration. He considers these collections to be scrofulous in nature, common in young subjects, rare in the full-grown or old. He thinks their contents are erroneously called "purulent." To this category he refers the slow swelling of joints and of lymphatic glands, the scrofulous enlargements and suppurations of the knee, the foot, and the ankle. He completely differentiates the breaking down of a tuberculous deposit from true suppuration occurring in the course of simple inflammation. He calls attention to what he terms the "curdly substance" in the fluid, distinguishing it from true pus. He tells us these collections move easily from their original seat to some other part by slight pressure or their own weight. The migrating collection which descends from a carious vertebra to the groin he calls "an abscess in a part" in opposition to "an abscess of a part." Indeed, he gives the salient characters of these disorders with the keenest insight, and his descriptions suggest to me the masterly power of some great artist who with a few strokes of his pencil is able to indicate a powerful situation or suggest a *startling* action.

When we study Hunter's works we find many later views and advances foreshadowed. It is wonderful to *reflect on* how much he has seen and described; the correctness and depth of his observations, and his ability to utilise the experimental method. There is scarcely any branch of anatomical or physiological inquiry which he has not illumined and few subjects in either medicine or surgery which have not benefited by his researches. His remarks on the union of severed tendons were apparently suggested by the accidental rupture of one of his own and prompted Delpech many years afterwards (1816) to divide for the first time the Achilles tendon for pes equinus This proved the foundation of orthopædic surgery developed by Stromeyer and since his time. "Of cancer," he reminds us, "no cure has yet been found, for what I call cure is an alteration of the disposition and the effects of that disposition and not the destruction of the cancerous parts." And to-day we can only, alas, endorse what Hunter said. In that branch of surgery where we boast of our greatest and most recent advances Hunter's originality is seen in the new paths of practice he indicated. He advises opening and washing out the abdomen in suppurative peritonitis and points out how often adhesions form which prevent the otherwise fatal results of a perforated bowel. He writes that "tapping is but a palliative in ovarian dropsy. The tumour generally renders life disagreeable for a year or two and then kills in the end. There is no reason why women should not bear spaying as well as other animals. It would be simply opening the cavity of the abdomen which we often do without inconvenience." Yet the establishment of ovariotomy as a successful surgical operation was postponed until the present generation. Did time permit or the occasion demand it I might quote other examples of the wonderful foreknowledge of Hunter. From the high standpoint of his own learning he was able to grasp what was previously unknown and to utilise his discoveries for the common good both of science and of mankind.

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[2] In the "Archives Générales de Médecine," 1847 and 1853, Gosselin contributed several papers on "Oblitération des Voies Spermatiques." In these he points out that the spermatic duct may become obliterated as the result of gonorrhœal epididymitis, that the obstruction may take place in the vas, the head of the epididymis, or in the seminiferous tubules. He states, erroneously however, that no previous author had noticed this fact and that the condition was one hitherto undescribed, the probable explanation being that there is no physiological change of function to attract notice during life and that it could only be discovered by a minute anatomical examination after death. He also shows that when both sides are affected the person must be sterile, as the absence of spermatozoa can be proved, although he will not be impotent. Curling in his work on the "Diseases of the Testicle," refers to the occasional occurrence of obstruction in the tail of the epididymis. He quotes Gosselin's investigations in 1853 which he fully corroborates. The inflammatory exudation, he says, in the walls and cavity of the ducts may cause their obliteration, generally in the globus minor, and when this is bilateral it will involve sterility.

[3] The Orator presented specimens of Hunter's form of bougie.

GUNSHOT WOUNDS.

John Hunter attached the greatest value to the experience he had gained while serving with the army. But little of real importance had been previously written on military surgery and the practice pursued had hardly been reduced to the common rules of surgery. We know, too, from the records of the time what imperfect education and training were accepted from those seeking admission to the public service, and that it was almost unnecessary for a man to be a surgeon to practise in the army.[4] Hunter writes: "A gunshot wound is often not understood at first. It may be impossible to tell what parts are implicated; a bone or large vessel may be contused or a viscus injured. A part of the intestine may have received a contusion so as to cause a slough, and on the slough becoming separated a new symptom will probably appear, for the contents of the intestines will come through the wound. But these cases will not be so dangerous as if the same loss had been produced at first, for by this time all communication will have been cut off. Nor will it be so dangerous as when a considerable blood-vessel is deadened, for in this case when the slough comes off, the blood getting a free passage into the wound, as also out of it, death will probably immediately follow." "Gunshot wounds," he goes on to say, "often do much mischief to vital parts and their effect will be according to whether the soundness of the part wounded is essential either to the health of the whole body or the uses of the part wounded, as an important viscus whose function is arrested or a large joint whose uses are impeded. Gunshot wounds often admit of being classed with small deep-seated wounds (punctured) which are always of a particular kind. Indeed, the variety of circumstances attending gunshot wounds is almost endless." He discusses the different effects resulting from the variable velocity of the projectile and the consequent differences in injuries of bone and of soft parts He speaks of the straight course and the keyhole punched out fracture produced in the bone by a bullet with great velocity and the devious tracks it may follow when travelling slowly. The wounds made by musket-balls in the wars of his time were very different from those produced by modern rifles whose small bullet may traverse the soft parts without doing them much damage while it pulverises the bone. The old flint lock propelling a large spherical bullet with a small velocity produced large contused or lacerated wounds of soft parts and splintered the bone.

There is no doubt that Hunter's work on gunshot wounds was a great step in the direction of their more rational treatment and laid the foundation of modern military surgery. "It has been hitherto recommended," he writes, "and universally practised by almost everyone, to enlarge the external orifice of gunshot wounds immediately on their being received, or as soon after as possible, and this without any discrimination between one gunshot wound and another." Hunter emphatically protests against this practice if only for the reason that few gunshot wounds are alike and the same practice cannot apply to all. "It is contrary," he urges, "to the rules of surgery as founded on our knowledge of the animal economy to enlarge wounds simply as wounds, for no wound, however small, should be enlarged unless something necessary is to be done which cannot be executed unless the wound be enlarged. This is common surgery and ought to be military surgery." Here his rare intelligence ran counter to generally received opinions and to the practice strongly inculcated by his illustrious predecessors, Ambroise Paré, Richard Wiseman, and Baron Percy. "It would be absurd, however," he continued, "for anyone to suppose that there is never occasion to dilate gunshot wounds at all, but it is certain that there are very few in which it is necessary." He tells us how seldom a wound need be dilated on account of the bullet itself; "balls when obliged to be left seldom do any harm when they are not in a vital part and have been known to lie in the body for years and yet the person has found no inconvenience." There can be little doubt of the soundness of this doctrine and it is certain that in very many instances greater injury has been inflicted in the unavailing search after the bullet or even in its extraction than the wound of itself could cause. Yet how persistently this superstition, I would call it, lingers in the public mind. The first anxiety of a man who is shot, soldier and civilian alike, is that the bullet, wherever lodged, should be forthwith extracted. The number and infinite variety of bullet-finders and [illegible] extractors which have been invented show that the art of bullet-hunting has flourished in spite of all that Hunter urged against it. "If the wound will admit it, the finger," he says, "is the best instrument to make exploration with," an opinion I heartily endorse, especially since the risks formerly attending its introduction may now be removed.

What would Hunter think of our improved methods of diagnosis or the discovery by the new photography of the exact position, amount of comminution and direction of a fracture, the locality of a foreign body, and the determination of the depth and relation to the surface of a lodged bullet, so that if for any reason it be deemed desirable to operate it may be cut down upon with almost as much precision as if the tissues covering it were translucent?

"What," he inquires, "is the very best practice where it is supposed the intestines may be wounded? I should suppose the very best practice is to be quiet and do nothing." How much therefore he would admire an exploratory operation for the discovery of a perforated intestine, the restoration of its continuity by one of the methods employed, the aseptic rendering of the abdominal cavity, and the frequent recovery of the patient without reaction, pain, inflammation, or any sort of complication. "Little notice," he tells us, "has been taken of wounds in the chest and lungs because it was assumed nothing could be done for them." "Yet I have seen," he says, "several cases of gunshot injury where the patient got well after being shot quite through the lungs." And our recent military experience proves how right Hunter was, since many persons whose lungs have been traversed by modern projectiles not only recover, but seem scarcely to suffer inconvenience from the injury either at the time or afterwards. Hunter differs, however, not only from those who preceded him, but from modern practice and opinion, in his advocacy of secondary in preference to primary amputation. He considers immediate amputation improper, as the surgeon cannot, under the circumstances, master the case adequately, and few amputations on the field of battle do well, "the only argument in their favour being that the wounded man is moved with greater ease without a limb than with a shattered one"; but I think it is now universally admitted that cases which demand amputation should be operated upon at the earliest period, either in the first dressing-station or the field hospitals, and that a delay of 24 hours or longer very seriously increases the risks.

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[4] Smollett entered the navy in 1739 when he obtained the post of surgeon on a king's ship. In "Roderick Random" which was published in 1743 he described the life and character of the naval surgeon at that time and the life so described was a terrible one. Just 100 years later, 1848, Huxley entered Her Majesty's navy He was assistant surgeon to the *Rattlesnake* during her cruises off the northern and eastern coasts of Australia and the observations he then made formed material for his well known work on "Oceanic *Hydrozoa*." John MacGillivray was naturalist to the expedition, Huxley being what would have been formerly called a surgeon's mate The difference between Huxley and Smollett sufficiently emphasises the different condition of the public service at the present time and what obtained 100 years ago, when the captain of the ship, Smollett tells us, was too much of a gentleman to know a surgeon's mate even by sight.

While assuredly Hunter was far in advance of his predecessors in the teaching and practice of military surgery, in some instances to such a degree that his views would hold good to-day, yet the conditions of warfare have become so changed and gunshot wounds are so different that the surgery of the battlefield no less than that of civil life has been revolutionised. Hunter clearly recognised that the destructive effect of a bullet on animal tissues depends on its velocity rather than on its weight. This is the characteristic by which the modern small-bore bullet, with its cupro-nickel or steel envelope, differs so greatly from the round bullet of Hunter's day and on which those modifications of gunshot injuries which have taken place depend. The old round bullet produced at all ranges more severe wounds of the soft parts than the modern missile does, and at short ranges probably caused as extensive a fracture of a bone, but it so rapidly lost its energy that at distances of even a hundred yards it frequently flattened out against the shaft of a long bone without causing fracture. The modern bullet produces at almost all distances unimportant wounds of muscular tissue, but it is apt to cut pieces out of the large vessels, which render any hæmostatic process ineffective, and in consequence death from primary hæmorrhage on the battlefield will be far more frequent than before. Injuries to long bones by hard-mantled bullets produce, at ranges of over 2000 yards, tunnelling without any great fragmentation, while as the range decreases the extent of the fissuring, the number of the fragments, and the distance to which the latter are driven steadily increase, until at ranges under 300 yards the extensive damage and destruction on the exit side of the limb have all the appearance of being produced by a small-arm shell or explosive bullet. Gunshot fractures of the shaft and of the articular ends of the long bones were considered to demand immediate amputation in Hunter's day, a rule which permitted but few exceptions for military surgeons of former times. In modern surgery the rule, if any, tends the other passiv, and only in exceptional cases—those in which an injury is not confined to the bone and unimportant soft parts, but in which the main vessels and nerves are also implicated—are more radical procedures to be recommended. In consequence of the suppuration which formerly always occurred in these cases, the comminuted and displaced pieces of bone acting as foreign bodies had to be thrown off by nature's efforts, and consolidation of a fracture was often long delayed or did not take place at all, while cases treated conservatively usually died from surgical infective diseases. In recent campaigns gunshot fractures of the long bones, even when greatly comminuted, and penetrating injuries of joints have been treated by conservative methods with success, except in cases where the blood- and nerve-supplies of the limb below are cut off by laceration of the main trunks. Amputation is only resorted to when no other resource remains to the surgeon, and occasionally, perhaps, when military exigencies necessitate the immediate transference of the wounded to the base of operations, circumstances which render conservative treatment, at all events for injuries of the lower limb, either impossible or at least more dangerous than operation. No doubt some small percentage of cases of gunshot injury of long bones and of large joints did formerly recover without amputation; but it has only been since Listerian methods of treatment were perfected that conservative treatment in time of war on a large scale and as a rule has become possible to the military surgeon. That Hunter was the great military surgeon of his time may be seen both in his teaching and in his writings, and our opinion of his greatness must be enhanced when we remember the scanty means at his disposal for bringing his surgery to a successful issue.

THE HUNTERIAN MUSEUM.

In 1799, six years after Hunter's death, Parliament purchased his collection and subsequently handed it over in trust to the Royal College of Surgeons of England for the public advantage. Further grants of money were voted to the College to erect a proper building for preserving and extending "Master" Hunter's collection and to build a theatre for the delivery of public lectures on anatomy and surgery. The museum has been fitly called Hunter's chiefest monument and is surely sufficient for the fame of any man. He worked for it constantly, sacrificed to it his other occupations, and devoted all his earnings to its development. His aim was no less than to illustrate the whole question of life both in health and in disease. Nature's handiwork in all its manifold perfections is there clearly shown forth by the never-ceasing labour of this great intellect. Any ambiguity that may sometimes mar his written words is not to be found in the careful arrangement of specimens which Hunter has displayed to us. The exposition is one almost too great for the human mind to grasp, much more for one man in any adequate sense to realise. Yet Hunter did in the main compass his splendid aspirations. He laid all his friends under contribution. Sir Joseph Banks procured for him every strange creature he could lay hands upon and divided with him the collection he had made during his travels round the world—indeed, for long Hunter had the refusal of every curious animal imported into the country. Smollett, a great friend of Hunter, illustrates the public view when he writes to him, "I mean to send you my poor carcass in a box to be placed amongst your rarities." Hunter's letters to his friends are full of urgent appeals to send him everything which he could utilise for his purposes. His later letters are, if possible, more importunate than the earlier ones. He expresses regret to a correspondent at the loss on the way home of two Havannah birds and a collection of insects. He much wishes for information on the natural history of the swallow whose habits he remembered in Portugal. He wants ostrich eggs just about to hatch and directs them to be put into proof spirit after cracking the shell. "If a foal camel was put in a tub of spirits and sent I should be glad. Is it possible to get a young tame lion or, indeed, any other beast or bird? If chameleons were sent it should be in the spring. I want everything respecting the bee tribe, such as wasps with their nests, also hornets with theirs." What a number of demands and in one letter out of many similar ones, and what an illustration of his zeal in the acquisition of knowledge!

The Hunterian collection of comparative anatomy cannot fail to excite surprise and admiration. We find in it an attempt to unravel the mystery of life, to display the various structures by which the physiological processes in plants and animals are carried on, commencing with the lowest forms and ending with man himself. The anatomical preparations are arranged according to the subjects they are designed to illustrate, and we have besides preparations of healthy and diseased conditions in plants, a series of skulls, skeletons of almost every known form of animal, many examples of deviations from normal types (which Hunter showed to be nothing essentially apart from natural development, but aberrations due to excess or defect or by reason of arrest in the ordinary process of growth), and also a considerable number of fossils. Hunter's collection numbered nearly 14,000 specimens with 10 volumes of manuscript description and notes, beside other catalogues and numerous drawings. He dissected more than 500 different species of animals, many of them more than once, and has left records of 315 dissections. What man ever accomplished such a prodigy of work or ever before illustrated his inquiries on so gigantic a scale? He proves that during the development of the higher organisms the parts usually undergo progressive changes from simple to more complicated structure and that the transitional form can often be recognised as a permanent condition met with in some so-called inferior form of life. The wide-reaching effect of these principles of Hunter finds its further development in the works of Darwin and other philosophers who have followed in his footsteps but have not departed from his methods. Since Hunter's time the number of preparations has increased to almost 50,000 specimens. His threescore of skulls have now grown to nearly 4000, illustrating many difficult problems in ethnology. The pathological collection is five times as numerous and in all the departments there has been continuous increase. Hunter's legacy to the world of wisdom and knowledge was great but the example furnished to us by his indomitable energy and clear recognition of the importance of an extensive knowledge of nature in order to rightly interpret its problems is even of greater value. The College has proved the wise custodian of this great institution and many of its most illustrious sons have devotedly worked towards its completion and perfection. Nowhere in the world exists its like. It is one of our national glories and it is a glory for our profession.[5]

CONCLUSION.

Hunter was a profound philosopher, a great naturalist (using the term in its widest sense), a pre-eminent collector, and the foremost surgeon of his time. It was to make surgery more perfect that all his work subserved and in it he reached the highest rank. He rendered to his art and science greater service than any man had done before him, and his claim to our admiration rests not merely on what he did but on what he suggested might be done. On the brass sacred to his memory in Westminster Abbey this College calls him the founder of scientific surgery. His claim to this proud title was asserted in the first of the Hunterian Orations; it has been renewed in every successive oration where Hunter's life and labours are reviewed by the most eminent of our profession, and it has never been called in question. One cannot but feel impressed at the multitude of the subjects which engaged Hunter's interest and attention, the greatness of his achievements, and the far-reaching influence of so many of his inquiries. His spirit survives in the energy of others who follow in his footsteps and serves to stimulate every student of natural science. He possessed that high form of intelligence which can convert abstract scientific truth to practical uses; hence it is that, finding surgery scarcely more than a mechanical art, he transformed it into a scientific calling, based upon principles which rest on the solid foundations of biological knowledge and collateral science. His supreme endeavour was to study life in all its many-sided manifestations. This is the noblest form of study and the most inexhaustible, yet the problem of life will remain a mystery transcending the power of human investigation or human imagination. Billroth regarded Hunter as one of the greatest men the English nation has produced and that his work on "Inflammation and Gunshot Wounds" is the corner-stone of modern English and German surgery. "From Hunter's time to the present day," he says, "English surgery has had about it something noble and nowhere either in ancient or modern times can the pattern be found of a grander scientific career." Masters of our craft at epochs in surgical history have from time to time declared their art to be then so near perfection that further improvement was impossible. May we not, nevertheless, hope and expect that surgery will accomplish new triumphs and yet greater completeness! I am not of those who think there can be any finality in human progress; to believe so would, I consider, render life no longer worth living in its higher sense and greater aspirations. Rather let us consider ourselves as having but just crossed the threshold of the great temple of science, knowing only a small part of that which still remains to be known, and be mindful of Bacon's words: "Let no man upon a weak conceit of sobriety or an ill-applied *moderation* think or maintaine that a man can search *too farre or* be too well studied in the booke of Gods word, or in the booke of Gods workes, but rather let men awake and cheerfully endeavour and pursue an endlesse progresse or proficiency in both."

Much as we have already achieved in every branch both of the science and art of our profession, more especially during the latter half of this century now drawing to a close, our past experience tends to show that in the future likewise great things shall come to pass. In our own lifetime surgery has been wholly changed. The discovery of anæsthesia has lifted a weight of sorrow from the world, and, as Oliver Wendell Holmes, both poet and physician, has expressed it, "the fierce extremity of suffering has been steeped in the waters of forgetfulness and the deepest furrow in the knotted brow of agony has been smoothed for ever."[6] Anæsthesia has, besides, rendered surgical procedures capable of a realisation which not even in dreams could we have previously supposed possible. It has permitted many new departures in surgery, made many operations feasible which had previously been condemned, and has proved a help of extreme value in the diagnosis of disease. Furthermore, one of the scientific descendants of Hunter, deeply imbued with his spirit, transcendently patient and painstaking in detail as was his master, as minute an observer of nature's ways, and as careful an experimenter, after much trying and much thinking has realised in the discovery of the methods of antiseptic surgery a benefit to mankind which only surgeons can to the full appreciate. What was hazardous before is now rendered safe, what was accomplished with pain and suffering is now free from both. There is scarcely a limit to what might be said in praise of this great work. The name of Lister, like that of John Hunter, will stand forth in the records of scientific progress as one who has immeasurably benefited humanity and as the author of the means whereby surgery has been mainly enabled to make that marvellous progress of which we are all so proud. This is recognized throughout the world, and were I not convinced that our science has fresh achievements in store I should say that Lister had finally crowned the edifice whose corner-stone Hunter laid.

Your Royal Highness, my Lords and Gentlemen,—John Hunter's career has been presented to audiences in this theatre from almost every aspect and his life and work have been reviewed by the greatest of his successors, some of whom have compelled our admiration by the eloquence and the beauty of the language in which they have expressed their thoughts. I do not expect to equal these, yet I would hope that my story, although a "twice-told tale," has aroused in you some measure of sympathetic response. The study of Hunter's works is in itself a liberal education and all who love their profession and who have its well-being at heart will do well to study them. They show his almost superhuman energy, the versatility of his genius, his extraordinary powers of observation, and, beyond all these, the absolute mastery of his will over bodily suffering. Of all the great minds which have illuminated the scientific world and guided its destinies John Hunter's is the one which first directed surgery into the pathways of science and dying left to surgeons a future in the memory of his past. He is the man without whose aid it is impossible to imagine surgery all that it now is; we cannot take his influence away and yet retain all that we now possess. Our science might have spared some other workers but it could not have become the science we know without John Hunter. This great surgeon, one of the greatest men who ever practised surgery, has now long gone to his rest. Cut off in the midst of his glory he died in harness. Yet though he be gone we may well apply to John Hunter what has been said of a pre-eminent statesman lately passed away: "The nation lives that has produced him, may yet produce others like him, and in the meantime it is rich in his memory, rich in his life, and rich above all in his animating and inspiring example."

OBITUARY NOTICES.

According to the terms of the deed already mentioned which establishes the Hunterian Oration it is part of my

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[5] From Mr. Stewart, the Conservator, I learn that the number of Hunterian specimens now in the museum is 11,324 and the additions since made amount to 37,802 or 49,126 in all. The numbers in the different groups are:—

	Hunterian.	Additional.	Total.
Physiology: plants and animals, arranged according to function	3,751	3,206	6,957
Human osteology: skulls, skeletons	106	6,522	6,633
Comparative osteology	3,802	13,560	17,362
Plants: invertebrata, external forms	1,129	2,468	3,597
Pathology, human and comparative	2,022	8,227	10,249
Calculi	441	2,575	3,015
Instruments	3	916	919
Human normal anatomy	—	308	308
Totals	11,324	37,802	49,126

There were but two Hunterian articulated skeletons, 44 skulls, and six skeletons of fœtus. To these have been added by the College 57 articulated skeletons and 3770 skulls. There is proof that Hunter dissected at least 500 different species of animals, not including repeated dissections of different varieties of the same animal and numerous dissections of plants. He made preparations so as to display the distinctive character of each animal and had careful drawings made from recent dissections besides. He left at his death an enormous mass of manuscript notes, including nine folio volumes of descriptions of dissections of animals, one volume of the natural history of vegetables, notes upon fossils, the notes he compiled for his Croonian Lectures, besides a very large number of observations concerning anatomy and physiology, the experiments he had made, on surgery generally, and also many notes of surgical cases. These were destroyed by Sir Everard Home—a very *holocaust.*

[6] "In this very hour, while I am speaking, how many human creatures are cheated of pangs which seemed inevitable as the common doom of mortality and lulled by the strange magic of the enchanted goblet, held for a moment to their lips, into a repose which has something of ecstasy in its dreaming slumbers? The knife is searching for disease, the pulleys are dragging back dislocated limbs, nature herself is working out the primal curse which doomed the tenderest of her creatures to the sharpest of trials, but the fierce extremity of suffering has been steeped in the waters of forgetfulness and the deepest furrow in the knotted brow of agony has been smoothed for ever."—Introductory Lecture, by Oliver Wendell Holmes, delivered in the Massachusetts Medical College, Nov. 3rd, 1847.

duty to add some appreciative words in memory of those colleagues whose labours have contributed to the improvement or extension of chirurgical science and who have died since my predecessor spoke in this place.

Oliver Pemberton.—The first of these is Mr. Oliver Pemberton, surgeon to the Queen's Hospital in Birmingham, Bradshaw Lecturer in 1894, and member of the Council, who died on March 7th, 1897, at the age of 71 years. His strongly-marked individuality and wise judgments, given always in a kindly and considerate manner, have been much missed. He was educated at King Edward's School in Birmingham. Subsequently he entered St. Bartholomew's Hospital and formed fast friendships with many of the distinguished men belonging to that great institution. It was altogether delightful to listen to the affectionate banter which passed between him and his intimate friend and fellow student Sir William Savory. Pemberton made valuable contributions to surgical literature, was a man of culture, an able clinical teacher, possessed of clear common sense, an acute judgment, and admirable temper. He spoke ill of no man and certainly none could speak ill of him.

James Blake Bailey.—Much too early and to the great loss of this College Mr. Bailey, its librarian, died on April 14th, 1897, at the age of 46 years. Although not a medical man he possessed an intimate acquaintance with medical literature, both English and foreign, and a wise, critical, and literary discernment. He had a knowledge of the contents of our great library at his finger-ends and took a keen and active interest in collecting everything bearing on the life and work of Hunter. Everyone who frequents our library must gratefully remember Mr. Bailey's helpfulness, his accuracy, his never-failing genial courtesy, and recall his bright intelligence and manifest sympathy with those who sought his assistance. Mr. Bailey took a real pride in our library which at present contains some 60,000 volumes and is increasing at the rate of about 1000 volumes each year. We owe it to him that the library has become a perfect model of good arrangement; the books can be consulted with facility and the readers have increased enormously. Mr. Bailey received his early training in the Radcliffe Library at Oxford University, and whilst he was with us he had the energy and ability to keep his terms at Oxford and take an Arts degree. He took a great interest in the byways of literature and wrote the "Diary of a Resurrectionist" which gives a graphic account of the scandals prevailing before the passing of the Anatomy Act.

Walter Rivington.—Mr. Rivington died on May 9th, 1897, at the age of 60 years, whilst still a member of the Council. He was surgeon to the London Hospital and a man of considerable literary attainments. He wrote an exhaustive history of the medical profession. He was a brilliant anatomist and a good surgeon and his work was accurate and painstaking, as is especially manifest in two of his surgical essays, "Tumours of the Orbit" and "Rupture of the Urinary Bladder." He entered the Council as a reformer and had a strong wish to make radical changes in the constitution of the College. He stated his views in debate with courage and discretion also and, although few endorsed his opinions, it was apparent that they were the result of conviction and were urged from a sense of public duty.

Edward Lund.—Mr. Lund, who died on Feb. 4th, 1898, was a provincial surgeon of the best type and a man whose presence at our Council meetings was always welcome. He was an examiner for many years and a Hunterian professor. As surgeon to the Manchester Royal Infirmary, in succession to men like Thomas, Turner, and Southam, he worthily maintained the reputation of the medical school. He was largely instrumental in uniting it to Owens College, whence has eventually arisen the Victoria University. Mr. Lund published many contributions on surgical subjects, one especially good on "Internal Urethrotomy." He had great gifts as a teacher, was resourceful and ingenious as a surgeon, and thorough in everything he did.

Henry Lee.—Mr. Lee, once a member of the Council, Hunterian lecturer and surgeon to St. George's Hospital, died on June 11th, 1898, at the advanced age of 81 years. He early devoted his attention to pathology, especially to that of the veins. Afterwards he attached himself to the study of syphilis, and did much for its better treatment, and in this branch of knowledge he was an unquestioned authority. He was a good practical surgeon, an able clinical teacher, and most genial in his intercourse with men.

SEVEN CASES OF VOLVULUS TREATED BY ABDOMINAL SECTION; THREE RECOVERIES.[1]

BY H. LITTLEWOOD, F.R.C.S. ENG.,
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DURING the past three years I have had what I believe to be a somewhat unique experience in cases of volvulus, having been called to operate seven times for this condition and having had the good fortune to record three recoveries. Up to the time of seeing my first case (on Dec. 3rd, 1895) I had never seen a case of volvulus either in my own or in the practice of any other surgeon, and the condition is apparently so rare that Kocher stated in a paper on Intestinal Obstruction which he read at the meeting of the British Medical Association at Edinburgh that he had only operated six times for volvulus and that only one of his patients recovered. I have therefore thought that my cases might interest the members of this society and have ventured to bring them before you to-night. I have not arranged them in chronological order but have taken the cases of volvulus of the large intestine (four in number) first and then described the three cases of volvulus of the small intestine. I have described Case 5 somewhat more fully in detail than the others.

CASE 1. *Volvulus of the large intestine (part of the transverse and descending colons and part of the sigmoid flexure); abdominal section; death.*—The patient, a man aged 62 years, was admitted to the Leeds Infirmary under the care of Dr. Barrs on Dec. 3rd, 1895. On Nov. 29th, 1895, he had complained of some pain in his body and from this date neither motion nor flatus had been passed. On the 30th the abdomen had become distended; the distension rapidly increasing. On Dec. 2nd he was crying out with abdominal pain which was relieved by morphia. On admission the abdomen was found to be distended, the distension being very much more marked in the upper part above the level of the umbilicus. He complained of great pain and tenderness which were most intense in this region. No liver dulness could be defined and the heart was displaced upwards so that the apex beat was in the third intercostal space. The abdomen was everywhere resonant. There was no visible peristalsis. There was a small ventral hernia in the right iliac region. No hard tumour could be felt either by abdominal or rectal examination. He had not vomited. The temperature was normal; the pulse was rapid. I saw him with Dr. Barrs and operated soon after.

Chloroform was administed at 12.45 A.M. on Dec. 4th. An incision about three inches long was made in the middle line of the abdomen. The lower limit was at the umbilicus; this was afterwards prolonged to the ensiform cartilage. On opening the peritoneum general peritonitis was found and a considerable quantity of brownish fluid escaped. Part of the colon was enormously distended; it occupied the greater part of the epigastric, umbilical, and right and left hypochondriac regions and pushed upwards the diaphragm. The small intestine, the cæcum, and the ascending colon were not distended. A piece of small intestine was in the sac of the ventral hernia; it was found to be slightly adherent and was removed from the sac. The distended bowel was now brought outside the peritoneal cavity and was found to be a volvulus composed of part of the transverse colon, the splenic flexure, the descending colon, and part of the sigmoid. The volvulus was about 10 inches in diameter at its widest part; it was twisted from left to right, there being rather more than a complete turn; its mesenteric stalk was about two inches in diameter and was situated about the inner part of the left lumbar region. The bowel was of a purple colour and numerous hæmorrhages were present. The volvulus was untwisted but it did not decrease much in size, so it was punctured with a scalpel; a large quantity of foul-smelling gas escaped and a small quantity of liquid fæces. The puncture was closed by a catgut stitch and the gut was easily returned into the abdominal cavity. The patient was in a very collapsed and critical condition after the operation and he died in about 30 hours. During this time he suffered greatly from abdominal pain which was with difficulty controlled by morphia. The bowels were twice opened, the motions being dark brown and liquid.

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[1] A paper read before the Leeds and West Riding Medico-Chirurgical Society on *Dec. 2nd, 1898.*

The following were the measurements of the volvulus made at the post-mortem examination: From the cæcum to the commencement of the volvulus, 21 inches; from the anus to the termination of the volvulus, 15¼ inches; the convex side of the volvulus, 27½ inches; the mesenteric attachment of the volvulus, 10½ inches; the length of the meso-colon at its widest part, five inches; and its diameter at the widest part, seven and a quarter inches.

CASE 2. *Volvulus of the cæcum, part of the ascending colon, and part of the ileum; operation; recovery.*—A man, aged 61 years, who was sent by the late Dr. Horsfall of Masham, was admitted into the Leeds Infirmary under my care on Nov. 23rd, 1896. The patient had been quite well until a week before admission. He then had pain in the abdomen which had been constant since, becoming at intervals much worse. The bowels had been opened on Nov. 18th, but since that time neither flatus nor motion had been passed. He had suffered from hiccough on Nov. 21 and 22nd, but he had not vomited. He had a right inguinal hernia when he was a young man. In 1870 an operation was performed, but the rupture returned a few years later and since then he had worn a truss. The right inguinal hernia rapidly filled after reduction with what appeared to be collapsed small intestine. On admission the patient's pulse was 90 and of good quality, the tongue was dry, and the lower part of the abdomen was greatly distended and everywhere resonant. The skin near the lower part of the abdomen was tense and distended portions of intestine could be seen and felt. There was no visible peristalsis. On rectal examination the pelvis was found to be filled with distended bowel.

Ether was administered and the abdomen was opened in the middle line below the umbilicus. Distended coils of intestine immediately presented. The incision was prolonged upwards for two inches. The distended portion of the bowel was drawn out of the peritoneal cavity and was found to be a volvulus of the cæcum, part of the ascending colon, and the lower part of the ileum. Some fluid escaped from the cavity. The twisted bowel had a long mesentery and was rotated nearly one and a half times on its mesenteric axis. The various parts were greatly distended, chiefly with gas, and the bowel wall was in a condition of passive congestion. The large intestine was more than five inches in diameter and the small intestine was proportionately distended. The cæcum formed the apex of the volvulus. At the point of twisting were several small hæmorrhages into the mesentery. The twisting of the bowel was from right to left and it was untwisted in the opposite direction and the contents of the volvulus were gradually forced onwards by gentle manipulation. The anus at the same time was dilated and a great quantity of flatus and liquid fæces were passed. The hernia was reduced and the contents were found to be normal. The bowels were then returned into the peritoneal cavity. At this stage the patient stopped breathing and artificial respiration was performed for four minutes. The abdomen was closed and a small portion of the cæcum was stitched to the lower part of the wound, so that if the obstruction continued a tube might be inserted and also to fix the bowel to prevent a recurrence of the twisting.

On Nov. 24th the patient said he felt stiff inside. The temperature was normal and the pulse 96. Rectal injections of four ounces of warm water every four hours were employed. The temperature was 99·4° F. on the day of the operation; after that it was normal. The patient made a good recovery; he got up at the end of three weeks and went home on the twenty-fifth day after the operation.

CASE 3. *Volvulus of the sigmoid flexure; operation; death.*—The patient was a woman, aged 57 years, who was under the care of Mr. West of Morley. I saw her with him on March 25th, 1896, and I operated at 3 P.M. on the same day. The history of the case showed that she had had an attack of intestinal obstruction which commenced on Jan. 18th, 1896. On Feb. 6th the bowels were suddenly relieved. The patient said that she had never been quite well since. On March 19th she commenced to suffer from pain in the body and vomiting. The bowels were opened on March 22nd and some flatus had passed, but since then nothing had passed. She was a very thin woman. The abdomen was distended, especially in the hypogastric and left iliac regions. There was some visible peristalsis. The abdomen was everywhere resonant and no tumour could be felt. On rectal examination no narrowing in the rectum was discovered. Douglas's pouch was filled with greatly distended bowel.

Chloroform was administered at the operation. The abdomen was opened in the middle line below the umbilicus by a three-inch incision. The hand was inserted into the peritoneal cavity; most of the small intestines were collapsed. The pelvis and the lower part of the abdomen were filled with a hugely distended coil which turned out to be a volvulus of the sigmoid flexure; it was about four inches in diameter. This was pulled outside the abdomen and was found to be twisted on its mesenteric axis from right to left. About 18 inches of the sigmoid formed the volvulus. This was untwisted; there was also a narrow band from the omentum crossing it, the other end of which was attached to the right iliac fossa; this was divided. As the volvulus contained a large quantity of liquid motion and gas and the walls appeared considerably damaged by the distension an incision was made in its long axis about an inch in length and about a quart of thin fæcal material and a large quantity of foul-smelling gas were evacuated. This was closed by a continuous Lembert's suture, the bowel was returned into the abdomen, and the abdominal wound was closed. The patient stood the operation well; the pulse was about 100 at its completion. The morning after the operation the temperature was 103°F., and the pulse was 104. No flatus was passed after the operation nor did she vomit. She got gradually worse and died 40 hours after the operation. There was no post-mortem examination.

CASE 4. *Volvulus of the sigmoid flexure; operation; recovery.*—The patient was a healthy, well-nourished girl, aged 10 years, who was under the care of Mr. Arthur Ellison of Leeds. I saw her with him on Jan. 25th, 1898, and operated at 10.30 P.M. The patient had commenced to feel ill on Jan. 24th and on the next day she complained of of pain in the body, which soon became distended and was associated with a rapid pulse and vomiting. When I saw her she was greatly collapsed, the pulse was rapid, and the hands were becoming cold. The abdomen was much distended and was tender and not moving with respiration. No localised swelling or enlargement could be seen or felt. On rectal examination the pelvis appeared to be full of distended intestines.

Chloroform was given by Mr. Ash and Mr. Ellison assisted me in the performance of the operation. The abdomen was opened in the middle line below the umbilicus by an incision three inches in length. Some thin semi-purulent fluid escaped and some distended and inflamed coils of intestine presented. Some of these were pulled outside the abdomen and protected by hot towels; between these coils were several pieces of yellowish-white lymph. There appeared to be a general peritonitis. A large distended coil was now felt which filled up the pelvis and turned out to be a volvulus of the sigmoid flexure, about 12 inches in length and about three inches in diameter. It was twisted on its mesentery from left to right; the lowest portion of the volvulus appeared to correspond to the top of the rectum. The volvulus was untwisted without pulling it outside the abdomen. When this had been done Mr. Ellison thoroughly dilated the sphincter ani and this enabled me to squeeze out a large quantity of flatus and fluid fæces from the sigmoid and from the distended coils of bowel beyond the volvulus, so that I could now easily replace the small intestines. At this stage the patient became much worse; the pulse could scarcely be felt. Brandy was given hypodermically and the abdomen was closed as rapidly as possible as I thought that the patient would not live long enough for me to complete the operation. The operation having been completed hypodermic injections of brandy and strychnia were given. After two or three hours she greatly improved and she swallowed a little brandy by the mouth. As she complained of great pain one-sixth of a grain of morphia was given hypodermically. Six hours after the operation she passed flatus and some urine. The temperature was 101·6°F. and the pulse was 152. On Jan. 27th the pulse was 120 and the temperature was 98·6°. After this the temperature was normal until Feb. 12th, when it suddenly went up to 103°; this was associated with some shivering and pain in the body which only lasted a few hours. After this the temperature was normal. The pulse gradually diminished in frequency. The bowels were at first well opened by means of saline purgatives and enemata. The patient got up on Feb. 27th and subsequently she made [illegible]

CASE 5. *Volvulus of* [illegible] *…tion; gangrene of volvulus;* re[illegible] *…ent* *suture of the bowel; recovery.*—The patient, a woman, aged 32 years, was under the care of Mr. Woods and Mr. Keighley of Batley. I saw her with them on June 9th, 1897, at 1 A.M., and operated soon after. The patient had been confined three weeks ago and was doing well; she had got up on the tenth day for a short time. On June 3rd, in the middle of the day, she had been suddenly seized with intense pain in the body and signs of intestinal obstruction developed later. On the 4th she had been seen by a consulting surgeon who ordered her small doses of belladonna and enemata. He saw her the next day and found her condition much improved; the bowels had been opened three or four times and the body was less distended. A few hours later she had become much worse, vomiting being incessant, and the distension of the abdomen becoming more marked. The symptoms of intestinal obstruction had increased in severity until I saw her. She was then very ill; the pulse was 150 and feeble, and the hands were getting cold but not moist. She was vomiting frequently; the vomit was very foul-smelling. The tongue was furred and moist. The abdomen was greatly distended and not moving with respiration. Coils of intestine could be seen and felt to move. She complained of great pain and there was a good deal of tenderness over the lower part of the abdomen.

At 1.30 A.M. I proceeded to operate. Ether was given by Mr. Woods and Mr. Keighley assisted. An incision about four inches in length was made in the middle line below the umbilicus. There was a good deal of bleeding from the abdominal wall. On opening the peritoneal cavity three or four ounces of foul-smelling red-coloured fluid escaped. On introducing the hand coils of small intestine were found matted together in the umbilical and hypogastric regions and in the pelvis. Some of the coils were adherent to the pelvic organs. The uterus was large. On looking into the peritoneal cavity some coils of intestine were noticed to be of a dark purple colour; these were pulled outside and were found to be a volvulus of the small intestine about 14 inches long. This portion of the bowel was distended but had not altogether lost its polish; it was almost everywhere adherent by soft adhesions to the surrounding small intestines which were also distended. The volvulus was untwisted and separated from the small intestines to which it was attached; gas passed freely out of the volvulus. The bowel was twisted rather more than a complete turn from right to left on its mesenteric axis and was hanging downwards; it was deeply grooved at the point of constriction. At this stage artificial respiration had to be resorted to and hypodermic injections of ether and brandy had to be administered; after some minutes the patient again breathed. The operation was rapidly concluded, more blood-stained offensive fluid was removed from the pelvis, and a Bantock's tube was inserted. The wound was closed except about an inch of the lowest part; the volvulus was placed as near this opening as possible. The operation lasted about 30 minutes. After the operation the patient soon became conscious and she vomited twice.

On June 9th, at 4 P.M., the bowels acted. The motion was very offensive. The patient felt sick, but she did not vomit. Abdominal distension was very marked. The pulse was 140 and the temperature was 104° F. The patient was in a very critical condition after the operation. On the 11th the temperature was 100° and the pulse was 104. The bowels were opened after a simple enema. Feeding was conducted entirely by nutrient enemata. The bladder was emptied by catheter. The wound was dressed and iodoform which had been used was discontinued, as the patient had some eczema of the body, arms, and legs, probably due to the drug. This completely cleared up in about 10 days. The Bantock's tube which had been emptied at frequent intervals was now removed as the discharge had greatly diminished in quantity. The patient now complained of great pain and swelling of the right leg and it was found that she had thrombosis of the femoral vein. On the 12th, at 8 A.M., the abdominal distension was quite gone. The patient was passing flatus freely. There was more pain in the leg and it was much more swollen. At 8 P.M. the patient was very restless and she complained of pain in the abdomen; an offensive discharge had come through the dressing. A simple enema was given with a good result. After this the patient slept for an hour and then woke up feeling hot and restless. The pulse was 140, the temperature was 102·4°, and the respiration was 36. The wound was dressed at midnight; the discharge was fæcal and large in quantity. Some portion of the volvulus had evidently given way. The wound was dressed every two hours. On the 13th the patient was much better and she passed urine naturally. On the 14th feeding by the mouth was commenced and the rectal feeding was gradually diminished. The bowels were opened daily by simple enemata. On the 22nd an offensive slough was noticed to protrude from the lower part of the wound. On the 24th I pulled on this and removed a slough about a foot long which consisted of small intestine greatly decomposed, evidently the whole of the volvulus. The patient was now entirely fed by the mouth. The pain and swelling in the leg were much less. On July 4th the patient got up for an hour. After this she continued to recover, getting up every day. On August 7th she was admitted to a surgical home in Leeds to have an operation performed for the restoration of the continuity of the bowel. During the past three weeks she had been getting up and going out every day. Most of the motion was discharged through the fistulous opening; two or three times some motions had been passed per rectum. The patient had had three attacks of obstruction, as the fistulous opening became almost closed; these attacks had been associated with great pain and vomiting. On dilating the fistulous tract relief had soon been obtained with copious discharge of motion. After admission to the "Home" she was very well until early in the morning of August 9th. I was called to see her at 5 A.M. She was then suffering from great pain in the body and was very collapsed. The abdomen was distended and the temperature was 101·6°. During the preceding 24 hours very little had been discharged through the fistulous opening. After some difficulty a No. 12 rubber catheter was passed into the bowel through the sinus and after that some fluid contents escaped. The sinus was an inch in length before it opened into the bowel and it appeared that this opening had practically closed. One-sixth of a grain of morphia was given hypodermically. After this the patient was greatly relieved and had the bowels well moved through the fistula.

On August 11th, at 9.15 A.M., the operation was commenced. The pulse just before operation was 120, and the temperature was 100·4°. Ether was given by Mr. Dixon. I was assisted by Mr. Walter Thompson and Mr. F. Talbot. An incision about three inches long was made in the middle line above the old scar, and the abdomen was opened. This exposed the omentum which was adherent to the viscera about the old incision. The finger was then passed inside the abdomen to the left of the sinus and it was found that the adhesions only extended for a short distance from the middle line. The area of adhesion around the sinus to the abdominal wall appeared to be a circle about two inches in diameter. The incision was now continued downwards on either side of the external orifice of the sinus so that this was isolated from the abdominal wall, and the incision was continued through the abdominal wall in the middle line for three inches below this. The portion of omentum attached to the viscera near the *cicatrix* was transfixed in six places and ligatured with fine silk and divided. This enabled me to make a complete examination of the parts. It was now found that several coils of intestine were adherent together and one coil was adherent to the top of the uterus. These adhesions were separated by means of a blunt dissector and the finger; one or two vessels were ligatured. Free access to the parts was thus obtained. About six inches above the fistulous opening and the same distance below the bowel was surrounded by means of a piece of indiarubber tubing. The fistulous track and the portion of skin surrounding the orifice, which had previously been separated were now carefully dissected out and removed. At one end of the fistula a small opening into the upper part of the bowel was found. This portion of bowel was greatly distended and there was some active peritonitis and actually some yellow flakes of lymph between some of the coils; at the other end of the fistula a small opening was found communicating with the lower portion of the bowel. The edges of the bowel were now pared. The portion of bowel below the fistula was much contracted. To make the openings of equal size the lower one was enlarged by dividing all the coats for a short distance at a point of the opening directly opposite the mesenteric attachment. The edges of the bowel were now stitched together by means of two continuous fine silk sutures, each going half-way round the circumference, beginning and terminating by a knot, all the coats of the bowel with the exception of the mucosa being included in the suture. Two or three sutures now close the gap in the mesentery. The sponges were removed and the omentum was brought down to cover the parts. The abdominal wound was closed. The operation lasted one hour and a half. The patient was very collapsed at the end; the pulse was 180. An injection of strychnia and brandy was given as well as an enema of brandy and water. The patient made a good recovery. She was fed by nutrient enemata for five days and after that by the mouth. The bladder was emptied by catheter for five or six days. The bowels were opened by a simple enema on the 21st and after that every day by means of enemata. A small stitch abscess formed which was opened on the 19th. The patient got up at the end of three weeks and made very rapid progress. The temperature, which was 100° at the time of the operation, varied between 100° and 101° for two or three days; after that it was normal, with the exception of a rise on the 26th and 27th, when it reached 102°. I received the following letter from Mr. Woods a few days ago: "Mrs. —— was prematurely confined at the end of seventh month of twin boys on July 22nd, 1898. The elder died on July 31st, the younger on August 2nd. At the present time the patient expresses herself as being in perfect health and quite able to do her household duties. She feels as well as ever she did."

CASE 6. *Volvulus of small intestine; operation; death.*—The patient, a man, aged 53 years, was under the care of Mr. Griesbach of Garforth. I saw him at 8 P.M. on May 4th, 1898, and operated on May 5th at 9.30 A.M. The patient had been first seen by Mr. Griesbach on April 29th. He had then complained of vomiting and pain in the body and there was some distension. On the next day the bowels had been opened, but no flatus passed. After the first day there had been no vomiting. The body had become more distended and tender. The temperature did not rise above the normal. The pulse had gradually increased in frequency and when I saw him it was 130. His hands and face were then pinched but not cold. The abdomen was distended and everywhere resonant; the distension was most marked on the left side No tumour could be felt. Distended coils of intestine could be seen but there was no peristalsis visible. Nutrient enemata with strychnia were given during the night and on the next morning the condition of the patient was about the same.

Mr. Griesbach administered ether and my house-surgeon, Mr. F. Talbot, assisted me. The abdomen was opened through the left linea semilunaris; some blood-stained fluid escaped. Some greatly distended small intestines presented which were of a purplish colour; several of these coils were pulled outside and were surrounded by hot towels. It was now found to be a volvulus involving several feet of small intestine twisted from left to right on its mesenteric axis. This was untwisted. It appeared to have made rather more than one complete turn and at the point of twisting there was a deep ulcer in the mesentery around which were some flakes of purulent lymph. The mesentery was torn near the ulcer in untwisting it, this caused some delay in stitching up as a vein was perforated and only with difficulty was it secured. As the bowel appeared paralysed and the distension was not much diminished an incision was made into it and a Paul's tube was inserted; from this a large quantity of foul-smelling contents escaped. The volvulus could now be easily reduced. The abdominal wound was closed, fixing into it the portion of intestine into which the tube had been inserted. The operation lasted about an hour and the patient stood it well He died on May 10th. For the first two or three days after the operation his condition had improved and he had appeared to be more comfortable; the pulse had improved in quality and had become less frequent. He had passed large quantities of flatus and the bowels had been well opened two or three times. At first large quantities of thin fæcal material had come through the tube, but afterwards it was thin, bile-stained fluid, from 10 to 12 ounces coming during the day. During the last 48 hours of life he had rapidly got worse, his hands becoming cold and blue, and there had been a good deal of twitching. The urine had been scanty and painful to pass. There was no post-mortem examination.

CASE 7. *Volvulus of the small intestine; tuberculous mesenteric glands and adhesions, operation; death.*—A man, aged 20 years, was admitted into the Leeds Infirmary under my care on March 15th, 1898 On March 13th at 3 A.M. he had been suddenly awakened by an acute pain in the abdomen, most marked about the umbilicus. Since then the pain had been more or less constant with paroxysmal exacerbations. The pain was less severe after passing flatus. He had commenced to vomit at about 7 A.M. The vomiting had been frequent, latterly becoming offensive. The bowels had not been opened since March 11th. Three or four enemata had been given. On admission the abdomen was found to be slightly distended, especially in the umbilical region. The abdominal walls were rigid and not moving with respiration. No tumour could be felt. There was no visible peristalsis. A doughy sensation in the pelvis was revealed on rectal examination.

The operation was carried out on March 16th at 10 A.M. Ether was administered. The abdomen was opened in the middle line by an incision three inches long below the umbilicus. There was some peritonitis. On introducing the hand into the peritoneal cavity the pelvis was found to be filled with collapsed small intestine. Above this were greatly distended bowels which were of a purplish colour. These were pulled outside the abdomen and protected with hot towels. They were found to be a volvulus, involving about two or three feet of small intestine completely twisted from left to right on its mesenteric axis. The mesentery forming the stalk of the volvulus was puckered and in it was found some enlarged and caseous glands; about two inches of small intestine were adherent to this. The volvulus was untwisted and then the adherent bowel was separated from the mesentery. In doing this a small tear was made into the bowel which was stitched up. The volvulus could be partly emptied, gas and liquid motion passing into the lower portion of the intestine. The abdominal wound was closed and a portion of the volvulus was secured to the lower end of the wound, so that it could if necessary be easily opened.

On March 17th, at 10 A.M., the patient was restless. There had been no vomiting since the operation. The pulse was 126 and the temperature was 99·6° F. At 3 P.M. the patient was delirious. There was no action of the bowels nor was any flatus passed. The face was flushed and dusky. At 6 P.M. the portion of bowel stretched to the lower part of the wound was opened and a small Paul's tube was inserted. At 11 P.M. the pulse was 136, the face was livid, and the patient was now quite maniacal and very restless. One-sixth of a grain of morphia was given hypodermically. There had been no flow of intestinal contents through the Paul's tube and no passage of flatus or motion per rectum. The patient had not vomited since the operation. He died at 4 A.M. on the 18th.

A post-mortem examination was made by Dr. T. Wardrop Griffith. On opening the abdominal cavity the small intestine was found to be immensely distended for rather more than half its course. The lower few feet of this formed a partially untwisted volvulus and presented dark semi-gangrenous patches; the artificial anus was made into the lower part of this portion of gut. The remaining small intestine, about four feet, was attached by puckered mesentery. The puckering was more marked at the upper portion of this part of the gut. Here the glands of the mesentery were indurated, being in part caseous and in part calcareous. A fold of sigmoid flexure was involved in these adhesions; other portions of the large gut were normal and contained large scybalous masses. The other organs were normal.

What strikes me most forcibly in seeing cases of intestinal obstruction is the difficulty in making a diagnosis and it is probably this very difficulty which fascinates one. I have to confess that out of the seven cases I only made a correct diagnosis in one; that was Case 2, and I made that with some reservation, as although the chief signs were present still the patient did not appear ill enough to warrant the diagnosis of such a grave condition. Case 1 we thought probably might be a case of perforated gastric ulcer. In the other cases there was so much general peritonitis and distension that I think the making of a correct diagnosis as to the actual cause of obstruction was well-nigh impossible. Volvulus of the small intestine is considered a very rare condition unless some cases of transient acute obstruction which readily clear up are really cases of partial volvulus. Descriptions of actual cases demonstrated either on the operating table or in the post-mortem room are certainly very rare. Mr. Thorburn has a very valuable paper on this subject in the *Manchester Medical Chronicle* for June, 1898, with a record of three cases, one of which is an undoubted case of volvulus, and I agree with him in thinking that a volvulus is the best explanati of the other cases. Case 5 suggests that the disarrang on the emptying of the gravid uterus may be the starting of a volvulus of the small intestine. The sudden onset in this case may have been caused by the patient assuming the upright position. I have thought that if the symptoms in this case had commenced a few days after the confinement a diagnosis of post-puerperal septic peritonitis might have been made, and if this is a reasonable suggestion it is possible that there are cases which are diagnosed and certified as post-puerperal peritonitis which are really cases of twisting of the bowels and that the peritoneum is infected from the intestine and not from the uterus. It is also more than probable that the correct explanation of some of the fatal cases of peritonitis occurring after ovariotomy and other similar operations may be that the infecting organism comes from a twisted or kinked bowel. Dr. Donald's case quoted by Mr. Thorburn supports this view—a case in which there was found, sharply defined, gangrene of five feet of ileum 35 hours after a simple ovariotomy—and I imagine that most operators must have seen cases of peritonitis after ovariotomy in which they have suspected that the infection has been derived from the intestinal tract. As to the causation of volvulus, in the large intestine a long mesentery appears necessary for its production. The normal length of the mesentery of the small intestine would seem to be favourable for the production of a volvulus, the small intestine being as it were suspended by its mesentery. In none of the cases did previous constipation apparently play any causative part—in fact, it was quite curious to note that in the cases of volvulus of the large intestine there were no hardened fæces, the contents being gaseous and liquid. In some of the cases visible peristalsis was noted. I am inclined to think that this movement occurred in the bowel above the twist and not in the volvulus itself. It appears to me that peristalsis is not likely to occur in the twisted gut.

The treatment of the volvulus adopted varied in the different cases. In Case 1 the volvulus was simply reduced after letting out the gas. In Cases 2 and 4 the anus was dilated and the contents of the volvulus and colon were squeezed out without opening the bowel, the after-treatment consisting of the administration of saline purgatives and washing out the bowel. Both these cases recovered. In Case 3 the contents of the volvulus were evacuated after incision. In Case 5 the volvulus was simply untwisted and the pelvis was drained. The volvulus subsequently becoming gangrenous was then removed and later the intestinal continuity was restored. In Cases 6 and 7 the intestine was opened and a Paul's tube was inserted in the coil, in the former case at the time of the operation and in the latter 24 hours after.

The mortality in cases of intestinal obstruction, whether from volvulus or from any other cause, is fortunately diminishing, and this is undoubtedly due to the fact that the profession is appreciating the great importance of early surgical interference in the large majority of cases of that condition.

Leeds.

DIPHTHERIA IN LONDON.—The first four weeks of the present year have witnessed in London a fall alike as to amount and fatality of diphtheria as compared with the four concluding weeks of 1898. In the December period in question there were 1045 notified cases, yielding a weekly average of 261, whilst in the January period only 959 notifications were made and the weekly average fell to 240 cases. In December two sanitary areas and in January one such area remained uninvaded. In December five districts had each upwards of 50 cases, 386 in all, and in January four districts had more than 50 cases each, an aggregate of 289, whilst four other invaded localities had only six cases between them. The registered deaths numbered 176, or 44 per week in the December period and caused a case rate of mortality of 16·8 per cent. In January the total mortality was only 125, or 31 weekly, and the case rate 13·0 per cent. These 125 deaths would have been 169 had the corrected decennial average been maintained for the corresponding weeks of the years 1889–98. In the Outer Circle the registered mortality was also much smaller in January than in December. In the earlier period 84 deaths, or 21 weekly, were recorded, of which 40 belonged to West Ham Registration District; in January only 57 deaths, or 14 weekly, were registered, of which 20 belonged to the West Ham area.

NOTES OF 84 CASES OF SYPHILIS TREATED BY THE INTRAVENOUS INJECTION OF CYANIDE OF MERCURY.

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DURING my term of house surgeon to the London Male Lock Hospital I had the opportunity of watching the effect of the various methods of treating syphilis and came to the conclusion that for hospital practice, for the more serious lesions, and for cases which can be seen daily, the intravenous injection of mercury was far superior to the other methods employed. I thought it might be interesting to give the notes of the cases I treated in this manner. It may be well before proceeding further to explain briefly the method of procedure. It is simple and with ordinary care is unattended with any special risks. The part of the arm where the injection is to be made is rendered aseptic by washing and swabbing over with a solution of carbolic acid. The veins of the forearm or the bend of the elbow are chosen as being the most prominent and easy to get at. A rubber tourniquet is applied to the upper part of the arm to make the veins stand out, and a fine needle of a hypodermic syringe containing 20 minims of a 1 per cent. solution of cyanide of mercury is introduced into the vein chosen, in the direction of the blood-stream. The operator knows when the needle is inside the vein by the sensation which is imparted to the syringe. The tourniquet is then removed, the fluid is injected into the vein, the needle is withdrawn, and an aseptic swab is applied with a small amount of pressure to the puncture for a few minutes. The injection is made every morning unless the patient complains of diarrhœa, which rarely happens, or unless there is some other contraindication. The injection is quite painless unless it has missed the vein when it causes acute pain and swelling. The pain and swelling can usually be reduced in a day or two by means of hot fomentations. Occasionally, however, the swelling persists for two or three weeks as an indurated nodule. In a small percentage of cases bruising of the tissues surrounding the vein occurs, due to slight extravasation of blood around the puncture, and can often be overcome by using a finer needle.

The advantages which are claimed for this line of treatment are—1. As the injection is made daily the patient is under constant observation. 2. The exact quantity of mercury introduced into the system is known. This is not the case when pills or inunctions are used. 3. As the drug is administered by intravenous injection the patient is rapidly brought under its influence (with greater rapidity than when administered by the mouth or skin) a marked advantage in cases where it is necessary to produce the full effect of the drug as speedily as possible, such as iritis, otorrhœa, bad ulcerative laryngitis, &c. 4. The rapidity with which serious lesions and visible evidences of the disease clear up. 5. The treatment by intravenous injection is especially useful in cases which have not responded to the ordinary methods of treatment, such as pills, inunctions, &c. In three cases, Nos. 22, 27, and 69, polyuria occurred for a few days. In two cases, Nos. 24 and 54, diarrhœa occurred, which was, however, easily kept under control by astringents and omitting injections for a few days. In two cases, Nos. 13 and 33, salivation occurred which was controlled by astringent washes and mouth hygiene. In three cases, Nos. 46, 59, and 74, there was a difficulty in making the veins sufficiently prominent. When the large number of cases dealt with is remembered these complications are scarcely worth mentioning, and can scarcely be called disadvantages especially as they were very slight and rapidly disappeared. Nine of the following cases are not classified, as the patients refused to be thus treated or were discharged for improper conduct. Cases of phimosis, where it was necessary to circumcise or to slit up the prepuce, healed rapidly, and in only one case, No. 30, did the wound thus formed indurate. The average stay in the hospital per case was 23·2 days. All the cases, with but one exception, No. 43, showed very marked and rapid improvement. It is not claimed that this method acted quite alone in producing these good results. In the worst cases other adjuvants were used such as cod-liver oil, iron, and a correct diet, and in all

SYNOPSIS OF 84 CASES OF SYPHILIS TREATED BY THE INTRAVENOUS INJECTION OF CYANIDE OF MERCURY.

Primary and Secondary Syphilis.

No.	Age in years	Previous history.	Nature of lesions.	No. of injections.	Time.	Result.	Remarks.
1	20	—	Phimosis for 4 weeks; concealed chancre; fading macular syphilide; inguinal adenitis.	14	14 days.	Improved +	Rash faded; phimosis reduced; sore healed.
2	20	Connexion 3 months ago.	Phimosis for 3 weeks; inguinal adenitis; papular eruption for 1 week.	27	30 days.	Improved. +	Sore healed; rash disappeared.
3	29	Chancre for 11 weeks; had had treatment with mercury (pills) but was getting worse.	Multiple sores at the frenum; chancre; meatus urinarius; adenitis, balanitis, and œdema; papular syphilide for 4 days.	24	28 days.	Improved. +	No symptoms present; sore healed; rash faded.
4	40	Chancre 5 months ago, 3 weeks after connexion; rash 2 weeks later.	Phimosis; concealed sore; adenitis; syphilide on the arms, back, legs, &c.; condylomata ani (circumcision).	16	27 days.	Improved. +	On the twenty-seventh day all symptoms had disappeared. Until the twenty first day veins would not stand out; inunction for 6 days every night.
5	33	Connexion 5 weeks before admission.	Chancre on the penis for 1 month; mass of enlarged glands; squamous syphilide of the face.	14	26 days.	Improved. +	Sore and bubo healed, spots faded, glands much reduced in size; oleate of mercury ointment applied to the glands.
6	21	Connexion 10 weeks before admission	Urethral chancre; swelling and inflammation of the whole penis; profuse papular eruption, adenitis, anæmia, and alopecia.	26	29 days.	Improved. +	All symptoms of syphilis disappeared, sore healed, rash faded, and the penis normal.
	30	Connexion 4 weeks before admission.	Chancre on prepuce for 10 days; papular eruption; inguinal adenitis.	11	17 days.	Improved. +	Sore healed; rash disappeared.
8	30	Connexion 9 weeks ago.	Indurated coronal chancre for 8 weeks; profuse squamous eruption, pustulous in places, for 1 month; throat injected.	30	32 days.	Improved. +	Sore healed; spots nearly gone.
9	27	Connexion 4 weeks ago.	Sore appeared 3 days after connexion, when he applied $CaSO_4$; adenitis, papular syphilide, and alopecia.	13	38 days.	Improved. +	At the sixth injection, the teeth being loose, injections were discontinued for 3 weeks and then resumed; after 13 injections the spots faded; sore nearly healed; hair stopped coming out.
10	29	Coronal chancre for 2 months.	Indurated chancre; profuse papular syphilide 3 weeks; adenitis.	19	21 days.	Improved. +	Sore healed; spots nearly gone; took his own discharge.
11	18	Primary sore on the penis 5 months previously.	Sloughing prepuce for 6 weeks; condylomata scroti and in inguinal region; profuse macular eruption, annular round the mouth and nose.	14	15 days.	Improved. +	At the sixth injection condylomata ani disappeared; after fifteen injections no signs of syphilis were present.
12	21	—	Chancre on the penis for 3 months; profuse macular rash for 2 months; adenitis, double iritis, condylomata.	14	15 days.	Improved. +	At the eighth injection the sores healed; the iritis was cured; at the fourteenth all signs disappeared.
13	33	Intercourse 7 weeks previously.	Sores on the prepuce for 3 weeks; general squamous pustular eruption; adenitis.	18	30 days.	Improved. +	At the fifth injection the gums were badly touched; no injection for 10 days; during this time the rash faded. At the eighteenth injection the sore healed and the rash had faded.
14	18	—	Phimosis; concealed chancre; œdema scroti; marked macular eruption.	17	17 days.	Improved. +	At the twelfth injection the rash faded; at the seventeenth injection the sore healed.
15	27	Small sore 9 days after connexion 6 weeks ago	Indurated sore of the glans; œdema of the penis; very profuse papular eruption.	21	21 days.	Improved +	Sore almost healed; rash nearly gone; no other symptoms.
16	19	Connexion 4 months ago.	Remains of indurated chancre on the penis; ulcerated throat; squamo-papulo-pustular syphilide; adenitis; pains in the limbs.	21	26 days.	Improved. +	Pains have disappeared; rash faded; wards closed.
17	33	—	Indurated chancre on the glans for 6 weeks; adenitis; papular syphilide.	9	17 days	Improved. +	Sore healed; spots fading; wards closed.
18	—	Sore on the penis; sore throat and mouth 1 year ago.	White patch on the tongue; adenitis; inguinal; small sore under the surface of the penis.	4	7 days.	Improved +	Much better; wards closed.
19	22	—	Phimosis; concealed sore; adenitis; condylomata ani, ulcers on the tonsils.	13	15 days.	Improved +	Circumcision; condylomata healed, throat well; circumcision wound healthy.
20	25	Has been treated with mercury; gums touched.	Coronal chancre; adenitis; throat injected.	8	9 days	Improved. +	Sore healed.
21	41	Connexion 2 months previously.	Hard collar of induration around the corona; inguinal and post-mastoid adenitis.	14	17 days.	Improved. +	All the symptoms disappeared.
22	19	Connexion 8 weeks previously.	Phimosis; concealed chancre; adenitis; profuse erythema.	20	20 days.	Improved. +	Complained of polyuria; there was no albumin. The rash had nearly gone; circumcision.

SYNOPSIS OF 84 CASES OF SYPHILIS TREATED BY THE INTRAVENOUS INJECTION OF CYANIDE OF MERCURY—(*Continued*).

Primary and Secondary Syphilis—(Continued).

No.	Age in years.	Previous history.	Nature of lesions.	No. of injections.	Time.	Result.	Remarks.
23	36	Sore on the penis 4 months ago.	Maculo-squamous syphilide; rupia; throat congested.	13	14 days.	Improved. +	Spots fading; throat well; wards to be closed.
24	19		Sloughing of the prepuce; mass of enlarged glands in the groin breaking down; maculo-papular syphilide.	13	17 days.	Improved. +	At the seventh injection diarrhœa occurred and it was omitted for 2 days. Circumcision; groin scraped. At the tenth injection the spots had gone.
25	36	—	Phimosis; chancre on the prepuce; adenitis; profuse papular eruption.	28	30 days.	Improved. +	Circumcision; spots disappearing. Circumcision wound healed.
26	17	—	Phimosis; papular syphilide; adenitis; tonsils ulcerated; circumcision.	32	33 days.	Improved. +	At the tenth injection the rash was fading. Circumcision wound healed. At the thirty-second injection the rash had gone.
27	34	—	Sloughing sore on the glans; adenitis; profuse roseola.	37	40 days.	Improved. +	Rash faded; sore nearly well; complains of polyuria at night; there was no albuminuria in the urine.
28	42	Connexion 6 weeks previously.	Sloughing indurated sore under the surface of the glans and prepuce; adenitis; papulo-macular eruption; throat ulcerated.	10	11 days.	Improved. +	Throat well; sore much better; looks healthy; wards to be closed.
29	29	Connexion 2 weeks previously.	Sloughing sore on the scrotum for 2 months; sore on the penis for 2 weeks; adenitis.	12	17 days.	Improved. +	Sores on the scrotum; penis looked very healthy and nearly healed; wards to be closed.
30	18	—	Inflamed phimosis; circumcision; the scar indurated; roseola; inguinal adenitis.	7	26 days.	Improved. +	The circumcision wound healed; eruption faded; induration subsided.
31	26	Connexion 8 weeks previously.	Indurated chancre 2 weeks; adenitis; profuse macular eruption; throat congested.	9	10 days.	Improved. +	Rash almost disappeared; sore nearly healed; own discharge.
32	31	Connexion 9 weeks previously.	Phimosis; concealed chancre; adenitis; roseola.	8	9 days.	—	Rash gone.
33	23	Had been treated with mercury for 5 weeks.	Phimosis; concealed sore; profuse general papulo-macular syphilide; adenitis; circumcision.	12	20 days.	Improved.	At the twelfth injection the gums touched, inunction for last 3 days; most of rash faded; own discharge.
34	21	Primary sore for 10 weeks.	Phimosis; concealed sores; adenitis; macular eruption; condylomata ani.	8	8 days.	Improved.	Own discharge.
35	30	Chancre for 4 weeks.	Phimosis; ulceration of the prepuce; papular rash; adenitis; slit up.	18	19 days.	Improved. +	Rash faded; sores healed; penis which was very filthy was now normal.
36	24	Last connexion 4 weeks previously.	Phimosis for 3 weeks; indurated chancre on the prepuce; general pustular eruption.	7	14 days.	—	Own discharge.
37	—	Connexion 2 months previously.	Phimosis; circumcision; indurated sores at the frænum; adenitis; roseola.	12	20 days.	Improved. +	Sore healed; rash faded; circumcision wound healed.
38	22	—	Two indurated sores under the surface of the prepuce; profuse eruption on body; buboes in the groin.	26	39 days.	Improved. +	Sores healed, as had also buboes; rash disappeared.
39	21	Last connexion 4 weeks previously.	Indurated chancre; adenitis; erythema; anæmia; sore throat.	13	14 days.	Improved. +	At the fifth injection the rash faded; at the thirteenth *injection* the sore healed. The glands were much smaller.
40	26	Primary sore for 3 months.	Ulceration and condylomata of the left tonsil; papular syphilide.	14	14 days.	Improved. +	At the eighth injection ulceration and condylomata of the tonsil healed; rash disappeared.
41	35	—	Large indurated chancre on the prepuce; adenitis; macular syphilide; congested throat.	12	12 days.	Improved. +	Rash much fainter; sore nearly healed; looked healthy; own discharge.
42	26	Sore on the prepuce for 8 weeks.	Chancre indurated on the prepuce; adenitis; profuse maculo-papular rash.	24	28 days.	Improved. +	At the seventh injection the rash was fading; at the twenty-fourth injection the rash was almost gone; the sore healed; own discharge.
43	26	Sore for 4 weeks.	Indurated chancre; adenitis; macular syphilide.	10	11 days.	— +	At the third injection the rash was fading; at the seventh injection the rash had become well marked, again deeper in colour, and more profuse; sore healed. At the eleventh injection the rash faded.
44	26	Phimosis slit up 3 months ago, not healed.	Granulating wound of the prepuce; inguinal and cervical adenitis; mascular, circular, and scaly eruption; seborrhœa.	22	31 days.	Improved. +	At the fourteenth injection the spots had all disappeared; the penis almost healed. Iodide of soda internally. Discharged for breaking the rules of the hospital.
45A	43	Phimosis *for* 4 *weeks*, concealed sore for 6 weeks.	Phimosis sore; adenitis; profuse papular syphilide.	34	46 days.	Improved. +	Sore healed; rash nearly gone; a few *scattered* papules remain chiefly on the face.
45B	—	Readmitted 25 days later; had been taking mercury pills.	Ulceration of the hard palate; a few papules on the face.	10	14 days.	Improved. +	Iodide of *soda mixture* internally as well as injections; very much better; wards to be closed.
46	27	Chancre on the penis and rash six months ago.	Ulceration of the inside of the mouth and tonsils; fading rash.	5	29 days.	—	Veins not evident, so was treated with mercurial inunctions.

SYNOPSIS OF 84 CASES OF SYPHILIS TREATED BY THE INTRAVENOUS INJECTION OF CYANIDE OF MERCURY—(*Continued*).

Secondary Syphilis in which the Primary Sore had Healed before Admission to Hospital.

No.	Age in years.	Previous history.	Nature of lesions.	No. of injections.	Time.	Result.	Remarks.
47	53	Sore on the penis 8 weeks, followed by secondaries; had been treated with mercury; gums touched. Had had dysentery in India.	Desquamating syphilide on the back, neck, head, and arms.	30	33 days.	Improved.	Blood and mucus per rectum after the fourth injection. Iodide of soda internally after the twenty-fourth injection.
48	—	None obtainable.	Phimosis, concealed chancre, adenitis, condylomata and at umbilicus, plaques on tonsils, papulo-squamous syphilide.	15	18 days.	Improved. +	After the fourteenth injection there was marked improvement, only a few spots being present, condylomata healed, phimosis reduced, no sore present.
49	25	Chancre on the penis 2 months ago, healed.	Adenitis, papulo-squamous syphilide on the trunk, arms, and legs; mucous patches in the mouth.	14	26 days.	+	A few scattered spots remain, adenitis reduced, mouth well.
50	18	Chancre on the penis 5 months ago.	Profuse general squamous syphilide, inguinal and cervical adenitis, throat injected.	36	37 days.	Improved. +	Slight staining left, no other symptom. Very bad case.
51	20		Phimosis, œdema of the penis and scrotum for 3 weeks, condylomata and *syphilitic* ulceration of the left middle finger nail, destroyed bone exposed.	48	61 days.	Improved. +	All visible signs of syphilis disappeared after 10 injections, œdema persisted; he was circumcised after the twenty-sixth injection, wound healed rapidly.
52	25	Intercourse 5 months ago; no sore now present.	Phimosis and œdema of the penis, condylomata ani et scroti, plaques in mouth and tonsils, adenitis.	15	19 days.	Improved. +	At the ninth injection the condylomata healed; at the fifteenth injection there were no signs of syphilis.
53	—	Sore on the penis had healed 14 days before admission.	Sore on the penis had broken out again and indurated, profuse macular eruption, adenitis, pains in the head.	7	8 days.	Improved. +	At the fifth injection the sore healed, the rash was fading. At the eighth injection the throat was well, the rash had faded.
54	19	Intercourse 3 months ago; has had treatment in the Infirmary.	Phimosis, concealed chancre, adenitis, profuse maculo-squamous eruption in the throat.	5	5 days.	Improved. −	Diarrhœa occurred at the fifth injection; he then had inunction. The rash had faded considerably. Discharged at own request.
55	24	Chancre and rash 6 months ago.	Otorrhœa, ulceration round the left ear and on the head, squamous syphilide on the right shoulder and chest, tonsils ulcerated.	22	22 days.	Improved. +	At the ninth injection discharge from the ear had ceased. The ulceration around the ear and on the head had healed.
56	27	—	Condylomata scroti and remains of indurated sore, gonorrhœal rheumatism.	22	22 days.	Improved. +	At the seventh injection condylomata and sore had healed. At the twenty-second injection no sign of syphilis was present.
57	33	Primary chancre 6 months ago.	Ulceration of the forehead, cheek, chin, and ear, also of the throat.	17	18 days.	Improved. +	Ulceration nearly healed, throat quite well. *Sodium iodide* was given internally. Discharged for insolence.
58	20	Chancre 6 months ago, treated for 9 weeks; has had an extensive sore on the penis.	Large ulcerating rapidly increasing mass on the dorsum of the penis, adenitis, broken down gumma in the left scapular region.	16	16 days.	Improved. +	After the seventh injection iodide of soda was given internally, sore was healing up. After the twelfth injection *the gumma healed. After* the sixteenth injection ulceration had completely healed.
59	21	Primary sore 13 months ago, treated off and on.	Sore under the surface of the penis 1 year, pigmented squamous syphilide legs.	4	13 days.	—	The veins were hard to find. Inunction was used; there was considerable improvement. Wards to be closed.
60	—	Primary sore 1 year ago.	Squamous syphilide on the penis, papular on the legs, periostitis of both tibiæ.	13	18 days.	—	Iodide of soda was given internally; an iodide rash appeared on the *seventh day*. At the eleventh injection the veins were hard to find. There was great improvement.
61	23	Sore on the penis 13 months ago, followed by profuse general eruption; discharged from Netley Hospital.	Psoriasis-like patches on both arms, back, and right leg, partly covered by scab and ulcerated. There was considerable thickening of the tissues.	27	29 days.	Improved. +	The patches had lost most of their thickening and scabs. Nearly all the colour was gone. Discharged *at his own request.*
			Rupia.				
62	45	Primary chancre 7 months ago.	Rupial spots on the thighs and arms for 6 months.	12	13 days.	Improved. +	Spots have entirely healed and are losing colour; ointment of red oxide of mercury was given for the spots.
63	20	Primary 5 months ago.	Rupial spots on both legs and shoulders, right arm, and left eyelid.	27	27 days.	Improved. +	All the rupial spots have entirely healed, leaving coppery coloured scars. Iodides were given internally and oleate of mercury ointment was applied to the spots.
64	23	Had had treatment for the last 3 months.	Rupia on the legs, nose, forehead, and scalp, ulceration of the throat, œdema of the left leg, general health bad.	7	18 days.	Improved. +	Cod-liver oil and iodides were given internally. By the ninth day the crusts had fallen off. Swelling of the face and leg had gone. His general health was much better. The veins were hard to find. Mercury was given by inunction.

SYNOPSIS OF 84 CASES OF SYPHILIS TREATED BY THE INTRAVENOUS INJECTION OF CYANIDE OF MERCURY—(*Continued*).

Rupia—(Continued).

No.	Age in years.	Previous history.	Nature of lesions.	No. of Injections.	Time.	Result.	Remarks.
65	25	Primary 3 years ago.	Remains of rupia on the back, right arm, and leg.	8	23 days.	Improved. +	Spots were healthy only pigmented; the veins were hard to find. Mercury was given by inunction.
66	60	Connexion 5 months ago.	Rupia for 3 months covering nearly the whole body, varying in size from a pea to a penny.	57	73 days.	Improved. +	Solution of perchloride of mercury was given in bath. At the fourteenth injection he was much improved; the crusts separated. On the nineteenth day iritis appeared which cleared up in a few days. At the forty-ninth injection there were no crusts; the spots were slightly coppery in colour. Very bad case.
67	28	Primary sore 18 months ago.	Rupia on the arms, back, legs, *and chest; periostitis of the* right knee and ulna and left third metacarpal bone. Very bad *case;* could not walk or stand alone. Marasmus.	47	62 days.	Improved. +	At the twenty-fourth injection the periostitis *cleared* up, leaving slight enlargement of the right knee; rupia healed and was losing colour; *cod-liver oil* and *iodides* were given internally. The patient gained 3 st. in 62 *days*.
Tertiary Lesions.							
68	33	Primary 15 years ago.	Tertiary ulceration of the scrotum; cutaneous gumma on the left thigh; septum nasi partially destroyed.	12	20 days.	Improved. +	The ulceration healed and the gumma disappeared; iodides were given internally.
69	27	Primary 11 months ago.	Gumma of the pharynx and of the scalp; tertiary ulceration of the right eyelid and eyebrow.	40	41 days.	Improved. +	Polyuria after the first few injections, but soon passed off; at the twenty-third injection the gummata had quite healed; sodium iodide mixture was given.
70	39	Primary 4 years ago.	Tertiary ulceration of the face and pharynx; necrosis of the upper jaw.	21	28 days.	Improved. +	Iodides were given internally; there was some diarrhœa. The ulceration had quite healed; there was no discharge from the jaw.
71	—	Primary 2 years ago.	Broken down gumma of the right tibia; old *pigmented* ulceration of both legs; psoriasis of the right forearm.	6	7 days.	Improved. +	Iodide of sodium was given. The ulceration became much improved.
72	23	Primary 3 years ago.	Gummatous ulceration of the inner side of the lower half of the right and left leg on and off 3 years.	7	9 days.	Improved. +	*Iodide of sodium* was exhibited. *The gumma very quickly healed.* The patient refused further treatment.
73a	25	Primary 18 years ago in India.	Gumma of the leg; syphilitic testes.	7.	10 days.	Improved. +	Iodide of sodium was given. Considerable improvement. Wards to be closed.
73b	—	Re-admitted 16 days later; he had not been taking any medicine.	Periostitis of the right tibia, pain in the knees, ulceration of the throat and face.	11	25 days.	Improved. +	The ulceration had quite healed. The throat was well and the periostitis was gone. At the eleventh injection the vein was missed so he was given mercury by inunction and iodide of sodium and cod liver oil.
74	34	Primary 7 years ago.	Chronic superficial glossitis (syphilitic).	3	27 days.	Improved.	The veins were not evident.
75	27	Primary 16 months ago.	Tertiary synovitis of both knees and ankles; throat ulcerated.	11	35 days.	Improved. +	Iodides *were given* internally; all the symptoms disappeared.
Cases not Classed who Refused Treatment or Absconded.							
76	34	—	Indurated chancre for 8 weeks; adenitis; squamous syphilide.	1	2 days.	—	The patient refused treatment.
77	22	—	Large sore on the prepuce covered by a white membrane; adenitis; profuse macular rash and lichen.	11	11 days.	—	Refused to stay in hospital; sore healing; spots fading.
78	22	Connexion (last) 2 weeks ago; rash appeared 21 days after admission.	Phimosis; concealed sore; adenitis; squamous syphilide; injections 21 days after admission.	8	28 days.	—	Circumcision was performed; the sores healed; the spots were fading; patient refused further treatment.
79	17	—	Phimosis; concealed sore; adenitis; condylomata ani.	6	7 days.	—	The patient refused treatment; absconded.
80	19	Has been treated with mercury in the out-patient department.	Phimosis; sores on the penis for 4 weeks; adenitis.	11	15 days.	—	Circumcision was performed; the patient refused treatment.
81	28	Chancre 12 months ago.	*Macular syphilide on* body; ulcers on tonsils.	14	14 days.	—	The patient refused treatment; discharged for insolence; *the spots were fading.*
82	30	—	Indurated chancre on the prepuce *for* 4 weeks; *adenitis;* macular syphilide on body.	3	4 days.	—	The patient absconded.
83	27	Primary sore 6 months ago, followed by rash.	Adenitis on both groins; papulo-squamous syphilide; ulceration of the tongue and tonsils.	3	4 days.	—	The patient refused treatment.
84	21	Sores on the penis *for* the last 2 months.	Indurated chancres; adenitis; profuse papulo-macular eruption; tonsils ulcerated.	4	5 days.	—	The patient refused to stay in hospital.

cases special attention was paid to the general health of the patient. In the tertiary and in some of the rupial cases the iodides of sodium and ammonium were used. All cases on being discharged from the wards were advised to undergo a further and prolonged course of the usual treatment in the out-patient department of the hospital. The cases are classified in the accompanying table as (1) primary and secondary lesions; (2) secondary lesions; (3) rupia; (4) tertiary lesions; and (5) cases not classified.

The patients whose cases I have described received their treatment in the wards of Mr. J. Ernest Lane and I have to thank him for his kind permission to publish the notes of the cases.

Colchester.

A CASE OF INTRINSIC CANCER OF THE LARYNX; TOTAL LARYNGECTOMY; RECOVERY.

By J. W. LEECH, M.D., B.S.DURH.,

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A MAN, aged 57 years, single, consulted me on Oct. 11th, 1898, complaining of pain in the throat, accompanied by loss of voice and difficulty of swallowing of five months' duration. The history of the case was as follows. The patient who is a fine, muscular, healthy-looking man complained in March, 1898, of gradual failure of voice unaccompanied by pain. In June he complained of a constant dull aching pain which was at times intensified but was always strictly localised in the larynx. About this time the failure of phonation was complete and a month later dysphagia was a marked symptom. He had also very distressing dyspnœa on exertion, but this symptom, together with a violent paroxysmal cough which was induced by swallowing liquids or solids, did not trouble him until shortly before he consulted me. While under my observation he began to expectorate *after his attacks of* coughing a small quantity of thick glairy mucous stained with bright blood which on microscopical examination gave no indication of the grave nature of his complaint. He was slowly losing flesh. On making a laryngoscopical examination when I first saw him the cords were seen to be fairly mobile and somewhat congested but no nodule was present; this, together with his complaint of a constant sense of dryness in the throat, made me somewhat doubtful about diagnosing what his other symptoms decidedly suggested—viz., malignant disease of the larynx. A fortnight later on again examining the cords a small pearly white nodule was seen in the middle of the right cord, while in a corresponding position on the other cord a smaller nodule was just discernible. The cords, which were markedy hyperæmic, were not so mobile as when seen on the previous occasion, the right cord being the more fixed. His symptoms meanwhile had been progressively growing worse, particularly the dyspnœa, which was most distressing on the slightest exertion. He had lost more flesh and was very anæmic. There was a total absence of any sign of glandular involvement and the larynx was freely moveable. There was no venereal history. His mother had died from malignant disease of the rectum. The diagnosis was now quite simple and, having informed him of the grave nature of his disease, of the only treatment at all likely to benefit him, and of the tremendous risk of the operation as shown by the statistics quoted by Jacobson and others, he elected after some consideration to have it performed. Before proceeding with an operation of such gravity as laryngectomy I submitted the case to my friend and former teacher, Professor Arnison, who quite confirmed my views.

The operation of tracheotomy and exploration was performed on Nov. 6th. Dr W D Arnison administered chloroform and with the assistance of Professor Arnison who had kindly offered to help, I made an incision in the median line about half an inch above the upper border of the sternum right down to the trachea which was seized and pulled up. After opening the wind-pipe a Trendelenburg's tampon-tube was inserted and the tampon was freely inflated. The incision was carried upwards to the level of the hyoid bone and was deepened until the larynx was well exposed. An incision was made into the crico-thyroid membrane and the thyroid, which was considerably calcified, was snipped through with a stout pair of scissors. On drawing asunder the halves of the thyroid the growth was seen to be more extensive than had been at first supposed. It was seen to involve the whole larynx and to extend downwards for some distance. To ascertain its exact extent the cricoid cartilage and the upper three rings of the trachea were snipped through, in the course of which the isthmus of the thyroid glands was divided, but with very little hæmorrhage. The extensive origin of the growth was then clearly visible. The disease was seen to be more extensive on the right side, extending as a somewhat flat, dark-red, irregularly granular mass of very friable consistence from the whole of the under surface and part of the margin of the right cord across the upper part of the crico-thyroid membrane to the posterior portion of the left cartilage and cord; below it implicated the whole of the right and posterior surfaces of the cricoid and also the upper two rings of the trachea on the right side only, where the growth was very prominent, and projected into the lumen of the tube for about three-eighths of an inch, causing some occlusion. At this stage, as the patient's breathing which was not at any period of the operation very good became rather critical and as he showed marked symptoms of collapse, it was deemed advisable, seeing that nothing but total extirpation could afford any hope of benefit, to postpone further interference. The wound was then closed with superficial silkworm gut sutures and was dressed and the patient was put to bed. Steam impregnated with oil of eucalyptus was sprayed over the wound and hot flat sponges were applied *continuously till the more serious operation. Trendelenburg's* tampon-tube which was left in the trachea was replaced in 24 hours by an ordinary Durham's tube. On being put to bed the patient speedily responded to stimulative treatment and the improvement in his general condition was most marked. So greatly had the tracheotomy relieved the dyspnœa and the cough that he was enabled to sleep for several hours every night and to partake of nourishment by the mouth without inconvenience. The exploratory wound healed up well and there was an entire absence of chest complications.

On Nov. 17th the operation of total laryngectomy was performed. Dr. W. D. Arnison administered chloroform and Mr. N. C. Bailes and Mr. T. S. Parkinson assisted. I reinserted Trendelenburg's tampon-tube into the trachea and freely dilated the tampon. The exploratory incision was then reopened and another incision was carried outwards at right angles to this for three inches on either side at the level of the lower border of the thyroid cartilage. This incision was deepened, no muscle other than the platysma being divided until the larynx could with the aid of retractors be freely exposed. An incision in the *middle line was then* made and the larynx was re-opened, a couple of small sponges secured by silk and artery forceps being packed above the tampon. The perichondrium and its muscular attachments were then carefully dissected off in front and laterally with a raspatory, the alæ were separated from their connexions, and the thyro-hyoid membrane was cut through together with the thyro-epiglottidean and the aryteno-epiglottidean folds. The epiglottis was left moored by its hyo epiglottidean fold. The cricoid was detached from the trachea, through the sides of which silk sutures were passed and held in position by artery forceps. Having carefully cleared the cricoid in front and laterally it was seized by a pair of vulsellum forceps and pulled forwards and upwards while it was carefully separated from the œsophagus. The dissection was continued upwards till the cricoid was freed, then the two cartilages were removed, not quite *en masse*, for owing to the calcification they were very brittle and they constantly broke in the grip of the forceps. As the first two rings in the trachea were considerably diseased, which was afterwards fully confirmed microscopically, the upper three rings were next removed. The hæmorrhage, which was never excessive, was easily controlled; indeed, no vessels were tied and only four vessels required twisting. The loose tissues in front of the exposed part of the œsophagus were then freely dissected off until the muscular fibres of that tube were clearly visible. All oozing was arrested by free mopping with hot carbolic lotion of one in 60. The cavity was next sprayed out with listerine and then with a little iodoform. The trachea being secured by a couple of silk sutures passed through each side of the severed end and brought through the skin at a higher level, a small pad of iodoform gauze was interposed between the inner surface of the trachea and the silk sutures on both sides. The lateral incisions were closed with silkworm gut and the cavity was well-packed with Seabury's iodoform gauze, especially round the top of the tampon; the wound was then expeditiously dressed and the patient was put to bed again, the operation having lasted only one hour and 10 minutes. The condition of the patient being one of extreme collapse, 12 minims of solution of strychnia were injected subcutaneously; hot-water bottles were liberally applied, and an enema of two ounces of brandy and four ounces of strong black coffee was thrown up the rectum and was repeated in half an hour, and in an hour's time the great collapse symptoms had somewhat responded to the stimulation. I might state that in cleaning the front of the œsophagus I inserted a bougie almost to the cardiac orifice of the stomach in order to avoid button-holing.

After-treatment and progress.—A bronchitis kettle, the steam of which was impregnated with oil of eucalyptus was kept boiling by the bedside and the tube was covered with hot flat sponges for a fortnight. Six hours after the operation the patient swallowed iced water without any inconvenience and there was a remarkable freedom from pain. Nutrient and stimulative enemata were given every four hours until the gut became intolerant. On Nov. 18th the sputum was quite normal and the cough was by no means troublesome. The patient swallowed semi-solid food without any inconvenience. The temperature was 98·4° F. His condition was well maintained on the 19th, when the sputum was somewhat blood-stained and purulent but not copious. There was some slight pain in the wound. The superficial dressings were changed and a bougie was passed from the wound into the mouth. On the 20th there was no change. All the dressings were renewed and the cavity was repacked. The cough was not very troublesome. On the 21st the sputum was somewhat offensive, purulent, and copious, and the cough was rather troublesome, but there was no pain. The wound was redressed and the tracheotomy tube was moved from the tracheal incision to the severed end of that organ. On the 22nd the sputum was less offensive and less purulent but it was still copious. The general condition of the patient was good. This condition was well maintained on the 23rd, when the sputum was much improved. Nearly all the sloughs had now separated from the walls of the cavity. This improvement continued on the 24th, 25th, and 26th. On the 27th the condition was excellent. All sloughs had separated and the patient sat up in bed for an hour and this improved condition was well maintained on the 28th. On the 29th the cough, possibly owing to saliva and food passing through the pharyngeal fistula, was very troublesome. The dressings had to be frequently changed on this account, as they quickly became soaked. The patient's condition, however, was excellent, and he got up and had exercise in his room. On the 30th he partook of mutton cutlets, swallowing solids with more comfort than liquids. On Dec. 1st there was continued improvement. The wound was perfectly healthy, and the patient was put on ordinary diet, and this improved condition was well maintained on the 2nd and 3rd. On the 4th the patient himself changed his tube and packed the cavity. He also passed the œsophageal bougie from the wound to the mouth without discomfort or inconvenience. On the 5th the patient went downstairs. He could now dress the wound and change the tube with perfect ease, and this improvement was maintained on the 6th. On the 7th he took walking exercise in the open air for about an hour and he swallowed solids and liquids without any portion passing through the pharyngeal fistula. The patient returned to Leeds alone on the 10th with an ordinary tracheotomy tube *in situ*, and taking with him a bougie which he was instructed to pass four times a day from the pharyngeal fistula to his mouth. An attempt at fitting Stewart's artificial larynx proved unsatisfactory owing to the unsuitable nature of the instrument for this case. On the 17th the patient found that the rapid contraction of the pharyngeal orifice entirely interfered with the passage of the bougie and he therefore returned to Newcastle. When I saw him the pharyngeal fistula would barely admit of the passage of a knitting needle. Dilatation was gradually produced by passing fine urethral bougies until the orifice permitted of the insertion of a small-sized sponge tent which was left in for three hours and replaced by larger ones, after which further contraction was kept in check by the passage of full-sized urethral bougies four times a day, and on the 26th I fitted in a Guessenbauer's artificial larynx, made by Hawksley of London, in which the curves of both tubes were somewhat more pronounced than in Guessenbauer's diagram, and although it was the same length as the original an extra vertebration was added to the pharyngeal tube. The patient naturally suffered from considerable pain and inconvenience at first, but in the course of an hour the organs became more tolerant. With the reed inserted he could speak remarkably well in a loud, clear, well-voiced monotone distinctly audible at 20 yards, and when the cap was in his loud whisper could be heard 15 yards away. The irritation brought about by the apparatus caused much coughing and the reed soon became blocked. He was, however, sent to his abode in the town with the apparatus, minus the reed, in the wound. On the following day he pronounced the instrument unbearable and complained of difficulty in swallowing which he attributed to the pharyngeal tube being too long. On laryngoscopical examination the upper end of the pharyngeal tube could not be seen but the epiglottis was visible and apparently functionless. Another cause of complaint was that saliva, &c., were continually passing through the fistula, due perhaps to his not getting the obturator pushed well home. On removing the obturator and replacing it by either the reed or the cap violent coughing was very frequently induced by saliva passing into the trachea and the reed would thus speedily become blocked. The instrument was removed and was sent to a local silversmith to have certain alterations made. The artificial larynx was re-inserted after having undergone the following alterations: (1) the pharyngeal tube and the stem of the obturator were shortened for three-eighths of an inch; (2) the free end of the tracheal tube was somewhat bevelled; (3) the front plate was altered so as to present a convex instead of a plane surface to the wound (in fact, it was made identically like the front plate in Sankey's dilating tracheotomy tube); (4) the key which locked the obturator was so altered that on making half a turn more it also locked the cap and the obturator, the failure to do which indicated to the patient that he had not got them properly inserted; (5) the cap, on account of its small size, its greater frequency in use than the reed or obturator, and its liability to get lost, was secured to the front plate by a very fine silver chain; and (6) the sides of the front plate where the strings were attached were turned well forward—in fact, almost to a right angle with the plate. The object of the last-mentioned alteration was to enable the patient to fix the tracheal tube more firmly during the insertion of either the pharyngeal tube or any of the constituent parts of the instrument and consequently to lessen the irritation of the trachea by backward pressure which had been previously the cause of much distressing coughing. The pain and inconvenience were still present, but in a less degree, and swallowing was not nearly so difficult as before. After leaving the instrument in for a little time the patient became remarkably tolerant of its presence although the frequency with which the reed became blocked at first was a source of some annoyance; but this occurred less with the improvement in the coughing as soon as tolerance became established. The patient although somewhat shy of his new monotonous voice gave a recitation lasting 10 minutes just before his return home. He returned to Leeds that evening with the instrument in, having previously introduced and withdrawn it several times unaided to my complete satisfaction. Up to the time of writing the patient still complained of some discomfort and also of apparent inefficiency of the obturator in preventing saliva, &c., occasionally trickling down into the trachea. This, I consider, will eventually be overcome by the epiglottis adapting itself to the new condition.

The course of the temperature was as follows. The highest level reached was on the second day after the tracheotomy, when it was 101° F. On the day of extirpation the morning and evening temperatures were respectively 97·8° and 98·2°. On the fourth day after the extirpation (Nov. 21st) the temperature rose to 100·2°. On the evening of the 23rd it was 99·8°, but after that date it varied from 97·6° to 98·6°.

As to the microscopical appearances, on cutting and mounting sections which had been stained in bulk by the picro-carmine method the growth was seen to present the following conditions. A dense layer of squamous epithelial cells bounded the tracheal surface of the growth, the most superficial of which having taken the stain very indifferently were rather indistinct From the deep surface of this prolongations were to be seen here and there dipping into the subjacent tissues In a dense stroma of new connective tissue in which there were marked cellular infiltration and nuclear proliferation numerous squamous nests of various sizes were seen These were most abundant towards the free surface of the growth, diminishing markedly in number when followed outwards

If I may be pardoned for presuming to offer suggestions founded on the experience of one case only I would like to make the following observations 1 The advantage of an interval of time between the tracheotomy and the more serious operation which in this case at least was most marked, cannot be over estimated Not only by affording almost complete relief to the dyspnœa and to a less degree to the cough did it effect a profound improvement in the patient's general condition, but also by dividing the shock, as it were, it gave the patient time to rally under immensely improved conditions The breathing, too, under the anæsthetic on the second occasion when tolerance to the tube had been established was much more satisfactory 2 Seeing that this is an operation *par excellence* where time is of the utmost importance it is difficult to understand why in most of the recorded cases the operator has usually selected a Hahn's sponge tampon which necessitates a delay of 15 minutes for its dilatation On this account and because Trendelenburg's tube which can be immediately dilated lends itself far more readily to asepsis than does Hahn's I very much prefer the dilating tampon tube 3 The extensive nature of the growth in this case with the entire absence of glandular involvement would seem to support Semon's view of the isolation of the laryngeal lymphatics, but unfortunately Sappey's anatomical investigations, which have entirely disproved that eminent laryngoscopist's contention, compel one to admit that the question yet awaits a satisfactory solution 4 The ease with which deglutition was performed almost immediately after consciousness had been regained, the non necessity for Symond's tubes, and the entire absence of anything like the alarming hæmorrhage which is often encountered in these cases and which in this case might have been excessive, as the patient had a short stout, muscular neck, I attribute entirely to the adoption of the method suggested by Mr Henry Morris of freeing the perichondrium and its attachments with a raspatory and avoiding the severance of any muscular structure other than the platysma 5 The very low tracheotomy which was done in spite of Guessenbauer's contention to the contrary with a view to secure more ample working space was afterwards justified by the extensive nature of the growth 6 Seeing that in cases of malignant disease of the larynx attempts at sampling the growth by intra laryngeal snaring frequently prove abortive and moreover often stimulate growth, I consider thyrotomy to be infinitely preferable and that it ought to be performed in doubtful cases, as by this means the extent and nature of the disease are accurately determined and treatment can, if consent be previously obtained, be carried into effect immediately

In conclusion, I beg to acknowledge the kind services of Mr F P Parkinson who examined the growth microscopically and to thank Mr N C Bailes for the preparation of the notes on this case To nurses Duckett and Ranson I am also much indebted for their kind and skilful attention to the patient which contributed in no small degree to the success of the case

Newcastle-on Tyne

PARTURITION FOLLOWED BY A BRAIN LESION INVOLVING THE SPEECH AND CERTAIN MOTOR CENTRES.

BY R S BERRY, M R C S ENG, L R C P LOND

ON August 25th, 1898 I was called at 5 A M to a multipara, aged 36 years, who was stated by the messenger to have just been delivered of a child and to be in a grave condition I arrived at the house at 5 15 A M, where I found the following state of affairs The patient, a stout, big built woman, was lying on her left side "huddled up" and obviously in a state of collapse The extremities were cold, the face and lips were blanched, the pulse was imperceptible at the wrist, and on being spoken to the patient responded only by an inarticulate mutter, but she knew that she had someone demanding an answer from her I immediately examined the uterus and the bed in spite of the midwife's assertion (a perfectly correct one) that there had been no post partum hæmorrhage The uterus was firmly contracted, giving the usual cricket-ball sensation upon palpation per abdomen, and there was no such amount of blood upon the bed as would indicate a profuse hæmorrhage The midwife (the patient's own sister) then gave the following account of what had happened before my arrival The child, a healthy male had been born without trouble two hours previously, the placenta following shortly in a natural manner, and the patient herself had been in a condition to call for no alarm until half an hour previously to my arrival She had then suddenly become restless for a few moments throwing her limbs about, and she was blanched and unable to be roused and could not be got to speak rationally The possibility of a pulmonary embolism was the first thing that suggested itself to my mind, the notion of post-partum hæmorrhage being now excluded The collapse was extreme and I set about trying to rally the patient before attempting any further diagnosis at all She was lifted in the bed and the whole of the wet and blood stained bed clothing was removed and then she was wrapped in warm blankets and packed all round with hot bottles I gave her a stiff tumblerful of hot brandy and water by the mouth, the swallowing movements being perfectly coordinated although she remained quite apathetic to anything that was being done for her and made no attempt to help herself in any way I now made some friction over the heart and in a short time had the satisfaction of perceiving that the beats were improving in force and lessening in frequency The breathing also, which had been rapid and shallow in character, slowed down a little and became deeper *pari passu* Some improvement being maintained by the continued application of warmth and friction I examined the chest and discovered nothing abnormal with the breath sounds The apex beat was not to be felt upon the chest wall On auscultation of the heart sounds a distinct systolic murmur was plainly audible over the second right intercostal cartilage, diminishing rapidly in audibility when traced downwards and outwards towards the ordinary site of the apical beat No murmur was apparent in the pulmonary area but the second sound in both aortic and pulmonary areæ appeared to me to be blurred in distinctness, but in neither position could I discover any reduplication of that sound On careful continuance of auscultation over the aortic area I found that I could certainly separate the murmur from the true bruit of the systole—that the two sounds (the systole and the murmur) were distinct from one another although occurring simultaneously And this view was borne out by the general state of the patient who although the murmur was constant presented no signs of any incompetence in the performance of the valvular office at the aortic orifice I diagnosed a chronic endocarditis of the surface of the valves, one affecting the surface and interfering in no way with the apposition of the edges of the lunulæ and concluded that as the result of the exertion of parturition a vegetation mass had become detached and was impacted as an embolus in the brain The further progress of the case strengthened this view, for it soon became apparent that there was loss of power down the whole of the right side of the body There was no facial paralysis the most noticeable thing about the face being the totally vacuous expression, especially in the eyes, which rolled aimlessly about at intervals and when at rest gave the impression of entire apathy to surrounding objects The patient made no voluntary effort to speak nor could any answer in speech be obtained from her until between 9 A M and 10 A M (four or five hours after the seizure), when she commenced to mutter to herself one particular sound The first answer obtained from her at all was in response to the question, asked somewhat loudly and sharply after repeated failures to elicit reply, "Do you feel better?" She said shortly and distinctly, "Better," and then she began to mutter at intervals the same sound or word (it was not distinguishable as any ordinary word) as she had first been doing I remained with her, and as the day wore on it became apparent that she was wishing now and then to speak but was unable to get beyond the inarticulate mutter, until in the afternoon, when asked by myself, "Who am I?" [no answer] "Am I the doctor? she gave an affirmative gesture and said "Doctor" perfectly distinctly. I imagine, from the completeness of articulation of these two words and also from the distinctness of the muttered sound, that the lesion in no way interfered with out-going expression of thought when once that impression had framed itself into a concrete idea in the higher centres. Coordination of the speech muscles, in fact, was not interfered with, but at the same time the paralytic condition of the right side was both of a sensory and motor nature, and I could not account for the fact that motor speech coördination was perfect, that there was no facial palsy, and that the tongue was protruded (now) in the middle line on request, while the condition of the limbs was so profoundly modified from their normal state. The paralytic condition of the right side deepened and by the next morning the right-hand grasp was almost gone and there was impaired cutaneous sensation over the whole of the right limbs. The speech, however, was improving; the patient now answered questions requiring a simple negative or affirmative always correctly but after a certain amount of hesitation, as though some obstacle lay in the outward passage of her idea. Whenever she spoke voluntarily at this time she strung her sentences together coherently and with purpose, but here and there she made use of a totally outside word (always single) or for a word, no matter whether noun, adjective, verb, or what not, she occasionally substituted the original short sound which had been her first voluntary effort at speech since the commencement of the attack. Throughout this day (the second) her most marked mental phase was the evident irritability, almost amounting to anger, with which she answered after being questioned or spoken to for any length of time. And I noticed on this day that her hair which under ordinary circumstances was straight, black, and smooth, was in the erectile condition which obtains sometimes among maniacal patients. The surrounding conditions of the patient prevented, somewhat to my chagrin, my making any attempt to test her capabilities as to reading and writing, although it is certain that not much could have been elicited as to the existence of agraphia or otherwise owing to the paralytic state of the right hand and arm. The speech volition improved quickly and on the third day, although she rambled now and then, she spoke with distinctness and in spite of a little initial hesitation (this was diminishing) communicated anything which she wished to do in a comprehensible manner. By the end of a week from the onset of the attack I could discover no verbal amnesia at all and the power of the right limbs began to return. Skin sensation improved more quickly than muscular movement and she located pin-points and pain sensations accurately while the motor activity of both arm and leg was still much modified. From this time up to December she improved rapidly in every way, the mental condition being then normal and the physical weakness having cleared up to a great extent, a fair amount of difference between the right- and left-hand grasp still remaining.

I submit that the apparent discrepancy between the recoveries (in point of time) of the mental and motor states admits of a physical explanation. I believe that the impaction of the embolus was never a complete one with regard to the lumen of a vessel; that the speech centre, although for a time partly cut off from its nutrition, was never wholly so; and that the centres of movement for the limbs were the more deeply affected owing to an increased want of blood-supply. To bring this about there must either have been two emboli or one embolus impacted at a branching point of some vessel common in its origin as the feed-pipe of the speech and motor centres. I think that the latter was the more probable state and that the speech centre received throughout a supply of blood just sufficient to maintain it at a low ebb of vitality, while the motor centres from the unequal lapping of the embolus into the lumen of their feed-pipe were for a time wholly cut off from nutrition.

It seems to me that a case of this sort may afford a wide field for the consideration of the origin of idea, as to the retentive brain power for idea once originated, and as to the methods by which the doors which guard the portals of thought must be swayed before idea can become translated into action. The brain injury in this case, though an organic one in itself, was set forth and became capable of diagnosis by the functional derangements which it caused. The nutrition of the centres being interfered with the psychic functions are for the time suspended but never destroyed, for their restoration is complete when the obstacle having been removed the supply through the feed-pipe returns to its normal quantity. But though utterly dormant for a time there is no destruction of those successive psychic phases whose sequence makes up the sum of thought. Their vitality, their entity, is not destroyed, for with renewed nutrition they emerge from sleep again for all the practical purposes of life as sound as though they had passed through no ordeal at all. And, by the way, it is interesting to note how those commonest everyday notions, the efferent path of which is, so to speak, beaten broad and smooth by long use and wont, are the first to return. Initially a confused interweaving of all idea, a chaotic jumbling which gives clue to its existence only by the outward sign of a meaningless sound, but that sound a constant one, the product, say, of a telegraphic cable the operators at the central station of which are for the time being demented, the insulation between the wires of which is for the time being gone, the myriad messages of which are blurred at the outset into nothingness of meaning and emerge only as an aggregate of confusion—the powerful, case-hardened ideas whose work has forged them into irresistible forces, from babyhood onwards, cleaving their way through the chaos, thrusting aside their newer, weaker brethren and becoming cosmic as the simple negative and affirmative. Close behind these foremost leaders of idea comes the recovery of recognition of objects and persons that have through long use become part and parcel of everyday life and, lastly, the return of those infinitely numberless variations and combinations of idea which in their sum constitute what we call volition.

Are there brain cells the life-history and conditions of which differ from all others in the cell massing which constitutes our bodies, which are each separately and indelibly stamped with a concrete mould which is a thought, indestructible as the ultimate physical atom for all eternity? Once let such a theory be worked upon until it may be raised to the dignity of a scientific truth and it seems to me that a clear light may at last be thrown upon the processes of which intellect as we know it is the outcome. Injury, however trivial, to all other body cells means speedy replacement, but should such replacement be required among the brain cells after such a case as that which I have described and the mind must return to babyhood and the whole erection of the adult intellect be rebuilt from its foundations. Years upon years must elapse before complete restoration could occur and I submit that in this case the rapid return to intellectual soundness goes far to prove that idea once conceived and translatable to the world as thought is a thing which is almost incomprehensible to us by reason of its immortality.

P.S.—I imagine that the patient's early capability of replying with the words "doctor" and "better" to questions asked was merely a parrot-like imitation of the questioner, the power to frame such replies arising from the external stimulus the leading notions of which were sufficient to afford a new impress to some empty, waiting brain cell, possibly one of the right hemisphere and hence untouched by the lesion.

Southport, South Queensland.

NOTE ON A FATAL CASE OF LITHÆMIC POISONING.

BY CHARLES R. ELGOOD, M.D. LOND.

AN elderly man, aged 69 years, of thin, spare frame and of abstemious habits, suffered from five definite attacks of disease presenting the symptoms described below. The patient had passed a good deal of his life abroad; he had suffered in the "fifties" from some malarial fever which he had contracted in the East, and had had influenza five years previous to the commencement of this illness. In all other respects he had enjoyed good health. There was a strong family history of gout, though he himself had never suffered from the disease.

The dates and the duration of the attacks were as follows. The first began on June 20th, 1896, and lasted for 14 days, and the second began on Oct. 13th, 1896, and lasted for about three weeks. Recovery was not so complete after this attack as it was in the case of the others. The third attack commenced on Dec. 19th, 1896, and ended on Jan. 20th, 1897. The fourth began on March 3rd, 1897, and lasted to the end of the same month. The fifth, and last, began on June 18th, 1897, and terminated fatally on July 3rd. Each attack was foreshadowed by irritability, great restlessness, intense itching of the skin, and dyspnœa of an asthmatic type. Symptoms of violent gastric disturbance followed, there being absolute nausea. The tongue was covered with a thick white fur and epigastric pain was frequent. Anorexia was extreme. These latter symptoms were throughout so prominent and irremediable that the gastric crises of tabes dorsalis were constantly recalled to mind. The radial pulse was now observed to become exceedingly tense and cord-like, though the condition was never more than one of virtual tension, the heart force being always weak. The skin was harsh and dry. Coincident with this condition of the tongue and pulse the urine was *observed to contain a large amount of uratic sediment* and the quantity of this deposit appeared to vary with the severity of the symptoms, for as the urates ceased to be excreted the pulse relaxed to such a degree that it could with difficulty be felt, the tongue became clean, the appetite returned, the dyspnœa and itching ceased, and convalescence began. Recovery, however, was invariably slow, and was delayed by the prostration, the anæmia, and the enfeeblement of the heart with consequent œdema which the attacks appeared to cause.

On several occasions epistaxis was a prominent symptom of the attacks. Thrombosis of the right external jugular vein was present in the second attack, and thrombosis of the external saphenous vein in the third. Twice between the second and third attacks there was pain in the great toe which was thought to be due to gout. The proportion of white cells in the blood was found to be somewhat increased, and was 11 to the field. No deformed red cells were noted and the rouleaux were well formed. The spleen was not enlarged. The heart showed a certain amount of dilatation. The valves appeared healthy. There was evidence of some atheromatous degeneration of the great vessels, but on the whole the heart was not considered seriously or primarily affected. The liver was large, extending three fingers' breadth below the costal margin. It was smooth and not tender. Cough, although always a marked symptom in these attacks, was never proportionate to the physical signs, which comprised some *dulness at the right* apex and down the left back. There was moist crackling in the latter situation but no tubular breathing.

No treatment seemed to have the slightest effect on the attacks either in shortening their duration or in mitigating their severity. The patient on these occasions would subsist for days on a few ounces of milk and a little brandy-and-water. Nothing would induce him to take more. In the fifth attack the symptoms did not abate, the urates continued to be excreted, the pulse failed to relax, and then the higher nervous centres became affected as was evidenced by Cheyne-Stokes breathing, groaning, lethargy, and a gradual loss of consciousness The patient died in a comatose condition on July 3rd, 1897.

During the attacks the quantity of the urine was decreased. It varied from a few ounces below 20 ounces to a few above that number. The specific gravity was 1030. It was acid and it contained no albumin and no sugar. It was highly coloured and was passed thick and turbid from a most copious deposit of pink amorphous urates. Crystals of nitrate of urea formed immediately on the addition of nitric acid. Microscopical examination showed that the deposit consisted entirely of amorphous quadriurates, crystals of uric acid forming in abundance when distilled water was added to the specimen. No other crystals were seen. The total output of urea, which when estimated by the ureometer gave a rather higher result than when it was calculated from the specific gravity, varied from 320 to 350 grains in the 24 hours. Considering that the patient was an emaciated, elderly man, who kept his bed and took scarcely any food, this amount appeared to be greater than would have been expected. During the intervals when he was in fairly good health there was some return of diuresis. After the fourth attack when he was out of his bed but was still confined to his room he was passing 28 ounces of urine, the specific gravity of which was 1025. The urea was estimated at 350 grains. A fortnight later, and a week after all trace of urates had disappeared, he was passing 36 ounces of urine, the specific gravity of which was 1012. The urea was estimated at 250 grains. Thus the urea, apart from the question of absolute increase, was certainly not stationary, and more than this, in spite of the fact that he was on an absolutely starvation diet more of this substance was excreted during the attacks than was the case during the intervals when he took a reasonable amount of food. Numerous observations showed that the quantity of urine passed never seemed to vary so much as did the degree of its concentration. The uric acid was never estimated, but, if it be correct that in health only seven grains of this substance are excreted in the 24 hours, it must have been enormously increased, for the amorphous quadriurates could be ladled out by teaspoonfuls from every sample of urine which was passed during the attacks. Towards the end of the illness, when coma was threatening, the urine, which still preserved the above features, became sensibly *diminished in quantity*. It could not, however, be measured.

Such a condition of urine, if persistent, denotes, according to the late Dr. Ralfe,[1] a general increase of tissue metabolism throughout the body, usually accompanying or preceding some grave constitutional disturbance, and certainly in the case before us the prostration and anæmia which followed each uratic output suggested that during the attacks some increase in the molecular activity of the cells of the body was going on and so affecting the metabolism. That the excess of uric acid during the attacks was not due to disturbance of the nitrogenous equilibrium owing to the food taken is certain, for the patient took practically no food. It is also improbable that it was drawn from accumulations stored up in the system as the result of previous excesses, for he was a most abstemious man. The futility of treatment, too, recalls the cases recorded by Dr. Ralfe[2] of patients who persistently passed urine of high specific gravity containing abundance of urates and who continued to do so in spite of all treatment until some unknown cause effected an improvement in the general health. Further, the rhythmical nature of the attacks, the regular march of events in each, and their uniform duration uninfluenced by treatment, all suggest that some part in the rôle of their causation was played by the central nervous system. Dr. Latham[3] who believes that excess of uric acid is mainly due to imperfect metabolic activity of the liver-cells whereby the glycocine fails to undergo transformation, assumes that independently of the vaso-motor fibres there are various nerve fibres distributed to the cells of that organ, one set regulating the transformation of saccharine and the other that of the nitrogenous elements brought to them by the portal blood. Thus, if I understand him rightly, one might reasonably infer from the analogy of what occurs in the case of the "diabetic puncture" that it might be possible to produce an excess of uric acid by a somewhat similar lesion. We should thus have a centre presiding over the metabolic activity of the hepatic cells, and if this be so may not the activity of the cells of other organs and tissues be under a like control? Whether excess of uric acid arises from an increase or decrease of metabolism is still an open question, but given the existence of such a centre as is postulated above it appears to me to be possible that a poison such as that of malaria or influenza circulating in the blood might either stimulate it to rhythmical activity or inhibit its normal function in such a way as to produce the phenomena that are usually believed to accompany an alteration in the rate of metabolism.

That the dyspnœa, the itching, the tense pulse, and the subsequent nervous phenomena were caused by an undue proportion of urates in solution circulating in the blood is, of course, not proved and the suggestion would be made with the more diffidence when it is remembered that so high an authority as Sir William Roberts[4] has stated that the gouty may enjoy complete immunity from symptoms of any kind, though their fluids are impregnated with *biurates* to the point of saturation; and, moreover, we all know that patients with leucocythæmia pass enormous quantities of urates and never present symptoms comparable to the above. It is, however, I submit, quite conceivable in the present state of our knowledge that inappreciable changes in the condition of the blood may at one time render a poison active and at this connexion Dr. Owen Rees[5] says: "It is, of course, impossible to say how or why it is that the same urinary matters should become converted into different poisons in the blood in different diatheses; but if we turn to non-vital chemistry we find analogical results. The ferment present may differ, the fluids may vary in density or in temperature, and in the one case a poison may be produced capable of causing a violent convulsion and in the other a milder toxic agent may appear as a result causing inflammation of venous capillaries and all the phenomena of acute gout."

Lastly, the diminution of urine observed towards the close suggests that during the earlier attacks the kidneys remained sound and were enabled to excrete a sufficient amount of the urates to avert any very serious result; but later, when they were no longer able to withstand the strain, they failed to do so and a fatal dose of the poisonous material was allowed to accumulate.

Windsor.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF SEPARATION OF THE LOWER EPIPHYSIS OF THE HUMERUS WITH INJURY TO THE BRACHIAL ARTERY.

BY E. WHARMBY BATTLE, M.R.C.S. ENG., L.R.C.P. LOND.,
JUNIOR HOUSE SURGEON, WARRINGTON INFIRMARY; LATE HOUSE SURGEON, MANCHESTER ROYAL INFIRMARY.

ON Nov. 7th, 1898, a boy, aged eight years, fell on his right elbow and came to the Warrington Infirmary within half an hour after the accident. The elbow was but slightly swollen and there was separation of the lower epiphysis of the humerus with backward displacement. Reduction was easy and without tendency to recurrence of the displacement. Before and after reduction no pulsation could be felt in either radial or ulnar artery at the wrist. The hand was cold and blue and there was superficial and deep anæsthesia of the hand and of the forearm up to its middle. Pressure on the fingers left a white imprint lasting for nearly half a minute. There was no pain. The limb was swathed in wool and bandaged to an internal angular splint. Three days later circulation, as judged from finger-pressure, was freer, though pulsation at the wrist was still absent. The hand was swollen and less blue than formerly. It was colder than the uninjured hand, especially after a short exposure. The anæsthesia was as before. On the 14th faint radial pulsation could be felt. The hand was less swollen, it was warmer and of better colour than before, and sensation was returning. The improvement continued and at the end of the second month there was good elbow movement.

Occlusion of the brachial artery from injury is a rare complication in fracture of the lower end of the humerus. Cases where radial pulsation is less in volume on the injured side and remains so for a short time when all displacement is rectified are sometimes seen, but even complete temporary occlusion resulting from displacement is not often met with. In the above case the facts that there was very little swelling about the joint and that after replacement of the fragments pulsation was still absent and remained so for several days point to there being a direct injury of the artery itself.

Warrington.

DAILY HÆMATEMESIS FOR OVER A YEAR.

BY MONTAGUE D. EDER, M.R.C.S. ENG., L.R.C.P. LOND.

THE patient was a coloured woman, aged 20 years, and she was brought to me by her mistress on Oct. 7th, 1898, as she was stated to be *suffering* from phthisis. The history was briefly to the effect that for over a year she had been vomiting blood, occasionally twice a day but always once, and that in the morning, and the statement was confirmed by her mistress who had frequently been present on those occasions. The quantity varied from half a wineglassful to a tumblerful. Black motions had never been passed to the knowledge of the patient and she had never suffered from indigestion, which is a very rare complaint in this country, but she had had fever several years before. Her menstruation was regular. Her feet and hands were invariably cold. She had had much pain just below the right clavicle. She was not so anæmic-looking as most of the people in this district. Her lungs and heart were normal and her pulse was of good volume, with a pause at every eleventh beat (the significance of which I do not know), but the beats were otherwise quite regular. Her temperature was 99° F. at midday. There was no tenderness in the epigastrium. The spleen was palpable; there was no goitre. Laryngeal and ophthalmoscopic examinations showed nothing abnormal. In her right nostril or on the septum near the pharynx there was a ragged ulcer which tinged a cotton-wool mop with blood. I asked the patient and her mistress to return after breakfast and to bring with them any blood vomited in the interval. The women had ridden a four hours' journey for a consultation and were anxious to return home before dark. Two hours later they returned, bringing with them 34 fluid drachms of blood which the mistress and others had seen vomited and which was stated to be an average quantity. It had been vomited soon after a meal and was therefore very acid; it was of mammalian origin. After cauterisation of the septal ulcer with chromic acid the patient returned home. To make a second journey to this place for further treatment would have necessitated eight hours' riding on a banca road, and although I begged them to return in a few days I heard *nothing more about the case till I accidentally met the* mistress some time afterwards when I was told that there had been no further hæmorrhage. When I made the examination I did not consider that the hæmorrhage was entirely due to the ulcer. I purposely avoided quinine and other drugs. The whole population suffers from malaria and more than half from goitre or its allies. I endeavoured to exclude *malingering to which the degenerate black races are so prone.*

Palmira, Republic of Columbia, South America.

A CASE FOR DIAGNOSIS: ERYTHEMA?

BY EDGAR F. CYRIAX, M.B., CH.B. EDIN.

THE condition now described has been observed by me four times in the same patient—namely, in the years 1889, 1893, 1895, and 1899. *On* every one of these occasions the symptoms were the same and they followed one another in the same order, and the patient felt much better after the attack. There never were any relapses. I have searched unsuccessfully in medical literature for a description of the ailment and should be glad to hear if any of the readers of THE LANCET have met with a similar case. It was certainly not specific in origin. During the last attack my patient was also under the observation of Dr. Axel Möller, M.D. Berl., who entirely concurs in and confirms my description of the case.

The patient was a man, 20 years of age. For a few days past (i.e., since Jan. 23rd, 1899), he felt weak and disinclined to work and had considerable headache with pain on moving the eyes. He felt better on the 26th and on the 27th he declared himself to be perfectly well. On the evening of the 27th, however, he began to have a boring pain in his legs and thighs and after a very restless night he found on the morning of the 28th that locomotion was very difficult owing to pain and swelling in the left thigh posteriorly, the left calf, and to a less extent in the right calf, left forearm, and some parts of the anterior abdominal muscles. Crimson patches had appeared over the inflamed areas which stood out from the surrounding tissue and had a hard margin and consistence. Some of these patches were as large as a two-shilling piece and varied in size down to about a pin's head. These patches were sore to the touch. At about 12 noon he noticed that there was slight inflammation in the prepuce which began rapidly to swell, and by 7 P.M. the whole skin covering the penis was of a deep purple colour, the penis being now about twice its normal thickness. The swelling and discolouration had spread right up to the symphysis.

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[5] Braithwaite's Retrospect of Medicine, vol. i., 1877, p. 41.

There was no pain in the penis. On palpation it could be made out that the skin over the penis was distended with semi-liquid blood. There were no signs of any synovitis. By 11 P.M. the extravasated blood in the skin of the penis had spread down on both sides and had filled up the scrotum so as partially to obscure the testicles. On the 29th the inflammation in the arms, legs, and thighs had given way to œdema, the penis began to shrink in size, and several bullæ filled with slightly bloody serum appeared on its surface. The patient felt much better. On Feb. 1st the penis was almost normal in size and the scrotum was smaller, but both the penis and the scrotum were considerably discoloured. New blisters here appeared in the place of the former ones which were opened. On the 2nd there was hardly any inflammation or œdema left in the arms, legs, or thighs and the hæmorrhagic patches over the inflamed areas were almost gone. On the 5th the patient was normal in every respect excepting that the skin was being renovated over the areas where the blisters had been. On the 7th new skin was completely formed over the parts where the blisters had been. The man was otherwise quite well and said that he felt "splendid."

Stockholm.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

KING'S COLLEGE HOSPITAL.

A CASE OF REMOVAL OF THE INTERNAL SEMILUNAR CARTILAGE OF THE KNEE.

(Under the care of Mr. BOYCE BARROW.)

OF all the articular lesions which were formerly grouped together under the title of "internal derangement of the knee-joint" probably the most important is a detachment of one of the semilunar fibro-cartilages. The immediate results of operation are probably in most cases favourable but doubts have been expressed as to the ultimate value of the joint from which the whole or a part of one semilunar fibro-cartilage has been removed. In Mr. Barrow's case recorded below five months after the operation the movements of the knee were perfect and this fact affords a complete vindication of the operation. Mr. H. Allingham has published a similar case[1] in which the patient remained quite well two years after the operation; and in a case brought before the Clinical Society of London in 1894 by Mr. C. B. Lockwood the patient could cycle freely 21 months after a partial removal of the internal semilunar cartilage, though he was afraid to play tennis. So we may conclude that, provided asepsis prevails during the operation and afterwards, there is every reason to anticipate a very favourable result from excision of a displaced fibro-cartilage of the knee. For the notes of the case we are indebted to Mr. J. R. Benson, surgical registrar to the hospital.

A youth, 19 years of age, on admission to King's College Hospital, was well-built, healthy, and much addicted to outdoor games. He complained of weakness of his left leg and said that he had had attacks of severe pain which laid him up for days together. These attacks had become frequent and troublesome of late. The history he gave was as follows. About two years ago whilst playing football he twisted his left leg and fell. It was not easy to make out the exact position of the bones at the time of the fall, but it seems that he turned sharply and rotated the leg and foot outwards as he fell. He felt at the time a severe sharp pain in the left knee and was unable to straighten his leg. After a little time this difficulty was overcome and he could extend the limb, although it was still painful. A sharp attack of synovitis seems to have followed, for the knee became swollen and tender and he was laid up for some days. Then he got about again and did not suffer any inconvenience beyond a sense of weakness in the joint. A few months later he was playing football and kicking the ground instead of the ball he again "put his knee out." This time he was not so severely injured and quickly recovered. From time to time, however, although he had no bad attacks he suffered from pain and fixation of the joint. Four months previously to admission he was jumping a ditch and twisted his leg again. It was very painful and bent up under him so that he could not extend the knee. He could flex it further but he could not get it straight. He noticed, too, that there was a small, hard lump projecting from the joint under the skin on the inner side of the knee and this seemed to him to prevent the knee going back into its place. He was carried to a medical man who reduced the deformity and then the patient was taken home to bed. The knee became very painful and swollen and ever since it had been useless to him on account of the pain and weakness. He could not walk without pain, but frequently the joint gave way and remained fixed in the flexed position, and on these occasions he generally could feel the hard lump described above.

On inspection the left leg was seen to be a good deal wasted above and below the joint and consequently the joint looked more enlarged than it really was—in fact, the measurements of both knees were nearly equal. Some fluid could be detected on palpation. Flexion and extension of the joint were free. There was also distinct lateral movement in the joint. Over the inner side of the head of the tibia was a painful spot and here a distinct depression could be felt.

The patient having been prepared and anæsthetised Mr. Barrow made a semicircular incision across the front of the left knee from condyle to condyle, extending as low in front as the tubercle of the tibia. The ligamentum patellæ was divided and the bone was turned up. When the joint was thus opened the internal semilunar fibro-cartilage was found to be detached from the tibia throughout most of its extent (especially in the front and at the sides) and folded upon itself. The lesion was so severe that any attempt at replacement was impossible. Both the cartilage and the bone had altered from the normal condition and the cartilage looked like a twisted mass of fibrous tissue. Mr. Barrow therefore dissected out the greater part of the cartilage and then he stitched up the incisions of ligamentum patellæ and capsular ligaments and the joint was closed. The superficial wound was sutured and dressed in the usual way. No drainage-tube was used. Seven days later the skin stitches were taken out, a collodion dressing was applied, and the joint was put up in light Croft's plaster splints. With regard to the after treatment, as Mr. Barrow considered that the too frequent or violent movement of the joint in such cases which is liable to occur if massage and passive movements are ordered do not benefit the part but rather tend to do harm and prolong the trouble, the joint was left in the splints for three weeks. The patient meanwhile was allowed to go about on crutches. Then he was encouraged to walk on the leg and take off the splints once or twice a day and move his limb himself, and some days later he left off the supports altogether. He left the hospital 10 days after the operation but attended as an out-patient from time to time during the next few weeks to report progress.

Remarks by Mr. BENSON.—The above case presents more interest than is usually met with in operations upon the knee both on account of the extent of the operation and of the rapidity and completeness of recovery. Before operation the patient could not work or even get about without constant discomfort and frequent attacks of severe pain which would lay him up for days together. When I saw him five months after the operation examination of his leg proved it to be as free from pain or weakness and as moveable as the sound limb. He walked quite well and had never had pain or trouble of any sort in the knee since leaving the hospital and he is now back at work with as useful a limb as ever he had.

ROYAL INFIRMARY, MANCHESTER.

A CASE OF BRADYCARDIA.

(Under the care of Dr. GRAHAM STEELL.)

BRADYCARDIA may be caused, according to Dr. J. T. Whittaker,[1] by eight conditions: (1) it may occur in certain diseases of the heart; (2) it may result from compression of the nucleus of the accelerator nerve in the spinal cord or from peripheral irritation of the vagus; (3) it may be due to organic disease of the nervous system, as in myelitis and meningitis; (4) it may occur in the course of general diseases as in convalescence after typhoid fever; (5) it may arise from various poisons, as tea or lead; (6) it may be the result of reflex irritation from the intestine; (7) it may occur in neuroses, as hysteria; and (8) it may be the result of a neuroses of the intracardiac ganglia. Perhaps the best known example of bradycardia is to be found in Napoleon the First whose pulse habitually did not exceed 40 beats per minute. Dr. Steell's interesting case is made still more interesting by the curious heart murmurs which were present. For the notes of the case we are indebted to Mr. W. J. S. Bythell, B.A., M.B., Ch.B., house physician.

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[1] Transactions of the Clinical Society of [illegible]

A man, aged 49 years, was admitted into the Royal Infirmary, Manchester, on Oct. 4th, 1898, complaining of weakness, dyspnœa, and dizziness. He stated that he had been more or less short of breath all his life, but more markedly so during the last 11 weeks. In July last he fainted while at his work and also on two other occasions since when out for a walk. He was also very subject to attacks of dizziness which were accompanied by "shooting sensations starting in the heart and passing to the back of the head." There was no history of either rheumatism or chorea and there was nothing in the family or social history of any importance. The patient was a non-smoker and "practically a teetotaler" and attributed his illness to overwork.

On examination the patient was found to be a moderately well-nourished man with a markedly slow and deliberate temperament. There was no cyanosis or œdema, the liver was not obviously enlarged, and there was no albuminuria. On inspection and palpation the apex impulse was found to be in the left fifth intercostal space just exceeding the nipple line. The cardiac dulness extended four inches to the left and one inch to the right of the mid-sternal line and reached as high as the third left costal cartilage. The pulse-rate on admission was 40 per minute, but on no subsequent occasion was it as rapid as this, averaging from 32 to 35 beats. Neither drugs nor exertion appeared to have any effect upon the rate. The tracings showed a regular good-tension pulse. On auscultation in the mitral area the first sound with an occasional systolic murmur was distinctly heard; the second sound was also audible and was followed after a distinct interval by a well-marked diastolic murmur. An occasional faint systolic murmur was also heard at the base. There was marked epigastric pulsation and also a good deal of venous pulsation in the neck which was characterised by a peculiar triple rhythm.

A few weeks later the systolic murmur became quite constant at the apex, while the second sound was obscured by a new murmur, so as to produce a double diastolic bruit. About the end of November a still more remarkable phenomenon occurred in the form of a faint and inconstant third diastolic murmur which lasted some days. During his stay in hospital the patient did not appear to gain to any very great extent in strength, and in spite of the usual cardiac tonics and stimulants his pulse-rate remained unchanged; he also continued to show a tendency to dizziness and faintness. On the other hand, his appetite and general condition remained good and at his own request he was discharged on Dec. 28th, 1898.

Remarks by Dr. BYTHELL.—The above case of bradycardia may prove interesting in relation to the case under the care of Dr. C. Dickie Murray which was published in THE LANCET of Jan. 28th. The present case has some unusual features which make the diagnosis by no means easy. The absence of any history of rheumatism or chorea was certainly against the presence of a valvular lesion, the dyspnœa from birth and the murmurs being the only evidence in favour of mitral stenosis. The systolic murmur was of course easily accounted for by mitral incompetence, functional or organic. The case also presents some points of similarity to that under the care of Dr. Murray. In neither was there any obvious cause for the bradycardia, nor was the latter condition at all influenced by exertion or treatment. As regards the murmurs in Dr. Murray's case it seems open to question whether they were not in part at least vascular, as the diastolic was inaudible over the body of the heart itself. The venous origin of this murmur is suggested by its seat over the base of the heart and by its extending along the vessels of the neck. The systolic murmur might have been produced in the arteries, while what was apparently a diastolic murmur was in reality the continuous venous bruit, obscured during the systole by the arterial sound and becoming audible during diastole. Such at least appears to be a very possible explanation of the case and is moreover in accordance with what was found at the necropsy. In Dr. Steell's case it is impossible to speak more dogmatically with regard to the diagnosis. It is difficult to account for the sounds which were heard without assuming the presence of a valvular lesion, and the possibility of congenital disease must be borne in mind owing to the duration of the symptoms.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Administration of Definite Mixtures of Nitrous Oxide and Air and of Nitrous Oxide and Oxygen.

A MEETING of this society was held on Feb. 14th, Mr. F. J. GANT, Vice-President, being in the chair.

Dr. F. W. HEWITT read a paper on the Effects produced in the Human Subject by the Administration of Definite Mixtures of Nitrous Oxide and Air and of Nitrous Oxide and Oxygen. The investigation was based upon the following carefully recorded and timed administrations:—

	Cases.
Pure nitrous oxide	22
Nitrous oxide mixed with different percentages of air ...	107
Nitrous oxide mixed with different percentages of oxygen	102
Total	231

In each administration records were made concerning anoxæmic convulsion, cyanosis, or other changes of colour, stertor, retching movements, phonation, excitement or reflex movements, after-effects, dreams, duration of inhalation, duration of anæsthesia, quantity of gas or gases inhaled, operation performed, &c. In order to compare cases and groups of cases with one another and to ascertain to what extent certain symptoms were met with under certain mixtures arbitrary numerical values were given to the phenomena of the different administrations. By this plan it was found possible to draw up charts and to make numerous interesting comparisons not only between groups of cases but between administrations of different mixtures to the same patient on different occasions. The following were the conclusions at which Dr. Hewitt arrived: 1. When pure nitrous oxide was administered to the human subject in such a manner that no free oxygen gained admission during the administration certain phenomena arose which might be regarded as being either (1) phenomena of anæsthesia or (2) phenomena of asphyxia. 2. The anæsthetic phenomena of nitrous oxide, although apparently very different from those of ether or chloroform, were in their essential features remarkably similar. 3. The most conspicuous of the asphyxial phenomena of pure nitrous oxide were (1) embarrassed and deeply stertorous breathing; (2) cyanosis; and (3) anoxæmic convulsion. All these might be eliminated without interfering with the anæsthetic effects of the gas by administering with it certain proportions of oxygen, either pure or as atmospheric air. 4. There were other less obvious asphyxial phenomena such as wide dilatation of the pupils, swelling of the tongue and adjacent structures, and rapid cardiac action which, like the more important symptoms above referred to, might be prevented or modified by similar means. 5. Under the influence of pure nitrous oxide breathing became deeper and quicker than usual. At the end of from 55 to 66 seconds its rhythm became altered either by (1) obstructive stertor; (2) anoxæmic convulsion attacking the respiratory muscles; or (3) both conditions combined. Paralytic cessation of breathing was very rare and when it occurred was dependent quite as much upon cerebral anæmia from defective circulation as upon the presence of unoxygenated blood in the vessels supplying the respiratory centres. 6. The deep and obstructive stertor of pure nitrous oxide narcosis was not met with when employing mixtures containing moderate percentages of air or oxygen. With such mixtures only softly snoring breathing was produced.

When the percentage of air or oxygen was considerable (30 per cent of air or 13 per cent of oxygen) respiration became noiseless and free from all obstruction , 7 The most marked cyanosis was met with when very small percentages of air (from 3 to 6 per cent) or oxygen (under 3 per cent) were administered with nitrous oxide With pure nitrous oxide cyanosis might not have time, as it were, to become pronounced, for the administration might be cut short by deep stertor As the percentage of air or oxygen increased cyanosis lessened, till with 30 per cent of air it was very slight and with 11 per cent of oxygen it disappeared altogether 8 Anoxæmic convulsion, like cyanosis, was liable to be greater with small percentages of air or oxygen than with pure nitrous oxide itself and for the reason just given But as the percentages of air or oxygen increased the convulsion decreased, till with 30 per cent of air and 6 per cent of oxygen respectively it ceased to occur 9 Reflex and excitement movements were most likely to arise either with pure nitrous oxide or with nitrous oxide mixed with small percentages of air (from 3 to 7 per cent), or with nitrous oxide mixed with considerable percentages of air (from 20 to 30 per cent), or oxygen (from 10 to 20 per cent) They were least likely to assert themselves with mixtures containing moderate quantities (from 12 to 16 per cent) of air or moderate quantities (from 3 to 7 per cent) of oxygen 10 Phonated sounds were most common when nitrous oxide was administered with large percentages of air (from 12 to 30 per cent) or oxygen (20 per cent) When nitrous oxide was administered pure or with small percentages of air (from 3 to 5 per cent) they were met with to a moderate extent only Phonation was least likely to arise with nitrous oxide and air mixtures when air was present to the extent of from 6 to 10 per cent , and with nitrous oxide and oxygen mixtures when oxygen was present to the extent or from 3 to 11 per cent 11 The duration of available anæsthesia after inhalation was found to be longest after the administration of mixtures containing from 3 to 11 per cent of oxygen, the maximum duration having been attained with 7 per cent mixtures With nitrous oxide and air mixtures the resulting anæsthesia was distinctly longer than with pure nitrous oxide, but the results were very uncertain in these cases The shortest available anæsthesia was recorded with nitrous oxide alone and with nitrous oxide mixtures containing 30 per cent of air 12 In estimating the respective merits of the various mixtures used as anæsthetic agents the investigation showed that the best results were obtained with mixtures of nitrous oxide and oxygen, the next best with mixtures of nitrous oxide and air, and the worst with nitrous oxide free from air or oxygen Air was not nearly so suitable as oxygen for eliminating the asphyxial factors of a pure nitrous oxide administration owing to the large volume of useless nitrogen which must necessarily be inhaled The nitrous oxide and air cases were, as compared with those of nitrous oxide and oxygen far more uncertain in their course 13 There was no one mixture of nitrous oxide with air or with oxygen which would successfully anæsthetise every patient 14 In order to obtain the best form of anæsthesia oxygen should be administered with nitrous oxide by means of a regulating apparatus, the percentage of the former gas being progressively increased from 2 per cent or 3 per cent at the commencement of the administration to 7, 8 9, or 10 per cent , according to the circumstances of the case The longer the administration lasted the greater might be the percentages of oxygen admitted 15 The next best results to those obtainable by means of a regulating apparatus for nitrous oxide and oxygen were to be secured by administering certain constant mixtures of these two gases Mixtures containing 5 6, or 7 per cent of oxygen were the best for adult males and mixtures containing 7, 8, or 9 per cent the best for females and children 16 The next best results to those last mentioned were to be obtained by means of mixtures of nitrous oxide and air, from 14 to 18 per cent of the latter being advisable in anæsthetising men and from 18 to 22 per cent in anæsthetising women and children 17 Paul Bert whose valuable researches upon the effects produced by the inhalation of nitrous oxide and oxygen were well known, regarded an increased atmospheric pressure as essential to the production of anæsthesia by means of these gases It was clear, however, from the foregoing investigation that deep and satisfactory anæsthesia unaccompanied by any obvious asphyxial manifestations might be secured at ordinary pressures by mixtures of nitrous oxide and oxygen containing even as much of the latter gas as was present in our atmosphere 18 The last mentioned fact would seem at first sight to give a death blow to the asphyxial theory of nitrous oxide anæsthesia—a theory which supposes that this gas produces its anæsthesia by limiting or arresting normal oxidation processes within the central nervous system But because no *obvious* asphyxial manifestations made their appearance during the inhalation it was not justifiable to assume that no such interference with oxidation was taking place

Dr J S **HALDANE** after complimenting Dr Hewitt on his research, said that the paper proved that in some cases at any rate the gas had a specific anæsthetic action and that the anæsthesia was not due to asphyxia Nevertheless, in the cases where Dr Hewitt used only a small percentage of air or nitrous oxide the times for producing unconsciousness (55 seconds) corresponded with those which Dr Haldane had found to occur with the inhalation of nitrogen or hydrogen He was satisfied that it was possible to produce anæsthesia by the inhalation of pure nitrogen, but the duration of anæsthesia was too small to allow of it being usefully employed in surgery

Mr **JOHN FAIRBANK** said that Dr Hewitt's paper would be of great use to those who wished to employ the method He could fully confirm what had been said as to the advantages of the administration of combined gas and oxygen It was easy to administer and the comfort of the patient both during inhalation and during recovery of consciousness was increased Mr Fairbank also thought that there was less liability to the occurrence of spasmodic closure of the air-passages after the administration was suspended than with pure nitrous oxide

Dr R L **BOWLES** said that the subject had a great interest for him as in 1855 he was engaged with the late Dr Marshall Hall in experimenting on the subject of asphyxia with mice If mice were put into pure nitrogen or hydrogen they died in violent convulsions but if a small percentage of air, too little to allow a light to burn were mixed with the nitrogen the animal lived But if they were put into a bell jar containing pure oxygen they lived only a certain time and died poisoned by carbonic acid, although the bell jar still contained enough oxygen to make a spark of tinder incandescent He was much interested in Dr Hewitt's classification of cases of stertor which *closely corresponded with what Dr Bowles* had described to the society 39 years ago

Mr G **ROWELL** said that the truth of Dr Hewitt's conclusions would be apparent to anyone who had had experience of the method he advocated There were one or two points which were open to criticism Dr Hewitt gave as the test of the close of the period of anæsthesia the ability of a patient to respond to some simple request, such as "Open your eyes" Mr Rowell held *that the crucial point was the recollection of the request* by the patient which would not be for an appreciable time later as the patient would respond to simple directions in a reflex kind of way before consciousness was restored He thought that the length of anæsthesia depended not only on the anæsthetic given but on the amplitude and rate of respiration at the time the mask was removed If respirations were deep and rapid the anæsthesia passed off quickly He agreed that the best results were obtained by giving *oxygen in progressively increased* percentage, but next in value to that he would put the initial administration of pure nitrous oxide till the stage of excitement had passed off and then give occasional inhalations of pure air at regular intervals

Mr H. J **PATERSON** said that the behaviour of the same patient to the same anæsthetic varied on different occasions Want of sleep especially hindered the production of anæsthesia, as he had often noticed in giving gas to night nurses *As to the "analgesic borderland" before* recovering consciousness, he mentioned a case in which gas and oxygen were being administered for a long time for removal of varicose veins The administration had to be suspended and the patient talked and even sat up and looked at what was being done and appeared to feel no pain He was again anæsthetised and on recovering consciousness had not the slightest recollection of the proceedings He believed that there might be an internal asphyxia although there was no outward evidence and that the retching and the sweating which occurred [illegible] evidence of this

Dr He[illegible] he had administered nitrogen [illegible] who [illegible] the [illegible] were [illegible] identical with those of nitrous oxide anæsthesia. If 7 per cent. of oxygen were added to the nitrogen it was possible to produce sufficient anæsthesia for the extraction of a tooth. He thought that the differences observed in anæsthetising the same patient were often due to differences in the anæsthetist. Waller's experiments seemed to show that carbonic acid was not so toxic as had been believed and he found it difficult to accept the "internal asphyxia" theory as he did not see what there was to prevent the free passage out of carbonic acid. Nitrous oxide was easily absorbed by the blood and appeared to diminish the oxygen-carrying powers of the red cells and also to have a specific action on the brain.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Feb. 13th, the President, Mr. EDMUND OWEN, being in the chair.

Mr. W. WATSON CHEYNE exhibited two cases of Coxa Vara showing the result of operation. The first patient was a boy, aged nine years, who was first seen at the age of three years with deformity clearly referable to curvature of the neck of the femur and chiefly characterised by marked eversion of both legs and greatly diminished inversion. The trochanters were at the level of Nélaton's line. On Jan. 23rd, 1893, an incision was made on the outer side of one thigh at the upper part down to the bone, the femur was sawn transversely below the trochanters, and the foot and leg were forcibly inverted till the normal degree of complete inversion was obtained, and it was afterwards held in that position by an oblong perforated aluminium plate applied over the outer side of the femur at the point of division of the bones and nailed over the two fragments with nickeled tintacks so as to keep up the inversion. The wound healed by first intention. The case was shown at the Clinical Society on Nov. 24th, 1893,[1] under the title of "External Rotation of Both Legs." On Jan. 7th, 1896, the boy was admitted to Paddington Green Children's Hospital with an abscess at the seat of the former operation, on opening which the plate and tacks were found to be loose and were removed. The leg operated on was now in perfect position and as useful to him as if there had never been anything the matter with it, and the condition in the other leg had greatly improved. The second patient was a girl, aged five years, who had been more than once in Paddington Green Children's Hospital for incipient rickets and was admitted for operation in January, 1897, when three years of age. At that time there were all the signs of coxa vara in both legs; there were marked eversion of the legs (inversion even to the right angle was impossible), difficulty in abduction, and lordosis. The trochanters were at the level of Nélaton's line; there were anterior curvature of the femur and flat feet, and the child walked with a waddling gait and the knees tended to cross one another. On Jan. 26th, 1897, the right femur was divided below the trochanter, the lower fragment was inverted, and the bones were fastened together with an aluminium plate as in Case 1. Union occurred by first intention. There was now a good leg on the side operated on and also improvement in the usefulness of the other leg. The aluminium plate is still present in the leg.—Mr. JACKSON CLARKE said that he had seen the second case before operation and could confirm the great improvement in posture and gait which had been brought about. He had had four cases of the kind under his care. Of these three had active rickets at the time and were treated by the application of an instrument to keep the foot looking forward and by a perineal band, and they all improved so much that no operation was necessary. In the fourth case there was pain in the hip and it was treated by rest and extension and the symptoms subsided. In adults he thought that removal of a wedge-shaped piece of bone might be desirable.

Dr. ROBERT MAGUIRE showed a case of recovery after operation for Cerebellar Abscess. The patient, a young man, aged 27 years, was seen in private consultation on March 2nd, 1896. He had suffered from discharge from the right ear for some time and suddenly, as the result of a chill, the discharge ceased, the patient complained of pain in the right side of the head behind the ear and became rapidly comatose, showing first convulsive movements of the left side. When first seen on March 2nd he was comatose, the head was turned slightly to the right, the left arm and leg were flaccid, the mouth was turned slightly to the right, and the right pupil was larger than the left. He could be roused sufficiently to give a stupid monosyllabic answer. The temperature was then 101° F. Operation with the existing surroundings being impossible he was removed to St. Mary's Hospital in the afternoon of the same day and on arrival showed *in addition* to the symptoms mentioned distinct weakness in the right arm and leg. On March 3rd Mr. Pepper operated by trephining behind the right ear. The dura mater and pia mater and also the superficial cerebellar substance seemed to be normal, but on cutting through about a quarter of an inch of cerebellar substance an abscess was reached and about two ounces of pus were evacuated. Next day the patient was conscious and answered questions rationally. There was still a little weakness of the left side, the right side being normal. The temperature after the next two days fell to normal. Convalescence was uninterrupted and the patient was discharged cured on April 20th, 1896. He had had no bad symptoms since.—Dr. STCLAIR THOMSON asked if there was any reason why the mastoid was not opened as the infection would probably pass by way of the mastoid. If that were so and it were left it would be a source of future danger. He asked if the trephined bone had been replaced.—Dr. MAGUIRE, in reply, said that owing to the patient's condition it was considered best to relieve the abscess at once. The inflammation could not have reached the cerebellum by direct extension as both the dura mater and the surface of the cerebellum were free from inflammation. The trephined bone was not replaced.

Dr. STCLAIR THOMSON showed a case of Pharyngomycosis Leptothricia, but probably more correctly called Keratosis Pharyngis. The patient, a man, aged 38 years, showed on the faucial and lingual tonsils the characteristic appearances of what was generally termed pharyngomycosis leptothricia. The crypts of the tonsils were occupied by small, isolated, tough, firmly adherent, white excrescences which did not coalesce, and the mucous membrane beneath and between them was apparently healthy. These white masses sometimes projected above the mucous surface in the form of tufts, brushes, or stalactites. They were very adherent and generally broke off short when seized with forceps. The outgrowths recurred rapidly on being removed and the affection might be very persistent. If left untreated it generally disappeared and left no trace behind, but it is said to have lasted for five and even eight years. It was limited in distribution to the fauces. It had generally been attributed to the growth of the mycosis leptothricia. But the spores and even the mycelium thread of this fungus were nearly always present in the mouth and pharynx. The attempts of Brown Kelly to inoculate it in his own throat always failed. Dr. Thomson considered that the mycotic element was of secondary importance and that the fundamental pathological condition was a cornification of the epithelium lining the tonsillar crypts. He had found no local application of any avail.—Mr. WATSON CHEYNE asked what other structures besides organisms were present, especially if there were many epithelial scales.—Dr. DE HAVILLAND HALL agreed that the cases were of very little inconvenience except to voice-users. He had seen good results from the application of a 15 per cent. solution of salicylic acid in alcohol.

Dr. HECTOR MACKENZIE showed a case of very large Thoracic Aneurysm. The patient was a man, aged 44 years. When first seen two years ago there was no visible aneurysmal tumour, but there were dulness and pulsation in the second right intercostal space close to the sternum and sharp pain in front of the chest. He followed his ordinary occupation as a labourer and three months ago he returned with a large pulsating swelling in the upper part of the chest measuring seven inches transversely and five and a half inches vertically, while it projected two and a half inches above the surface of the chest wall. The swelling was soft. The greater part of the gladiolus and the attached cartilages on the right side had been absorbed and on palpation there was a very diffuse and heaving systolic impulse followed by a diastolic shock. No murmur was audible. The tumour had considerably increased in size in the three months during which the patient had been under observation. The case was shown on account of the exceptional size of the tumour and the comparative insignificance of the symptoms to which it gave rise.) The pain was now very much less than it was two years ago The patient did not feel ill enough to go into the hospital but he found the shortness of breath and pain produced by exertion rather trying — Dr. DE HAVILLAND HALL related a similar case now under his care at the Westminster Hospital Under treatment by rest, restricted diet and iodide of potassium the man got worse and Dr Hall was now trying a method of treatment recommended by Lancereaux, the injection into the subcutaneous tissue of the buttock of a 1 per cent solution of gelatin in normal salt solution, beginning with 50 cubic centimetres He had given five injections, the last being one of 200 cubic centimetres The injections caused little inconvenience but it was too soon to judge of their effect — Dr MAGUIRE thought that the patient had done well to refuse in patient treatment as he had never seen patients able to return to work and earn a living as this man had done after prolonged rest The recumbent posture made the aneurysm press against the œsophagus and not improbably *favoured the occurrence of rupture into that tube*

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[1] Transactions of the Clinical Society of London, vol. xxvii.

Dr HECTOR MACKENZIE showed a man, aged 32 years suffering from Graves's Disease who showed all the usual symptoms He was admitted into St Thomas's Hospital on Jan 17th 1899, He had always been of a *nervous* tempera ment and suffered from an attack of nervous depression in 1882 About six months ago he noticed puffiness over the eyes for which he consulted a medical man and in December, 1898 he observed that his eyes were protruding and his medical attendant noticed that his throat was swollen When shown the eyes were prominent and when the patient looked down there was marked lagging of the upper lid On admission when the lids were closed they did not quite meet, but this was now diminishing The enlargement of the thyroid was considerable, soft and symmetrical The circumference of the neck was 15 inches A loud blowing systolic murmur was audible over the goitre The pulse rate varied between *90 and 120* There was marked carotid pulsation in the neck and there was a very rough systolic murmur best heard in the situation of the third left costal cartilage The disease was rare in males, the comparative frequency of the disease in this country in the *two sexes* being about one to 20 It was possible that occupation and mode of life might act as exciting causes Two of the other male patients whose photographs were shown were, like the present subject railway servants It was stated that exophthalmic goitre was not infrequent in the Russian army Occasionally in cases of this disease some substance was present in the urine which was not glucose but reduced Fehling's solution The patient showed one very interesting symptom which Dr Mackenzie had not previously observed— itching of the skin This itching had been very troublesome for some months so that the patient had "to scratch himself like a monkey" The interest of this symptom lay in the circumstance that it was not uncommonly met with during the process of treating myxœdema by means of thyroid preparation and was often a cause of a considerable amount of suffering in these cases —Mr WATSON CHEYNE said that he had operated on about 12 cases, several of them being males, removing half the thyroid Tremor and palpitation were relieved in almost all cases, so that a sempstress was able to resume her sewing and another patient was delighted because he was again able to play nap No improvement took place in the proptosis —Dr R MAGUIRE said that in cases of Graves's disease and in cases of palpitation possibly of the same nature he had found great benefit to result from the *administration* of tincture of cactus grandiflora — Dr ALEXANDER MORISON said that many of these cases improved in time irrespectively of treatment He mentioned one case which he had seen seven years ago The patient was not then put under treatment and disappeared from observation till recently when the symptoms had subsided He thought that the neurotic element was the most important and that the hypersecretion of the thyroid was secondary —Dr WILFRED HADLEY said that he had tried to follow the subsequent course of cases which had been under treatment and he thought that the symptoms often subsided in course of time In a few the nervous symptoms became more pronounced and the patients went to asylums and a *few died* from some other complaint —Dr MACKENZIE in reply, said that the mortality directly due to operation appeared to be considerable (12 per cent.) and the results were not much better than were obtained by other measures

Mr V. WARREN LOW showed a case of Subcoracoid Dislocation of the Head of the Left Humerus, with Fracture of the Great Tuberosity The patient was 51 years of age On Oct 30th of last year he slipped and stumbled down some 15 or 20 steps falling in a heap at the bottom and striking his left shoulder He did not suspect that his shoulder had been seriously injured till he arrived home and on taking off his clothes noticed that there was very considerable swelling and bruising in the region of the joint and also that the "point of his shoulder" (acromion process) was abnormally prominent Next morning it was found that the left shoulder was very considerably swollen and bruised, but that the head of the bone was absent from its normal position and could be felt below and to the inner side of the coracoid process the axis of the humerus being correspondingly altered, no signs of fracture could be detected and an unsuccessful attempt was made to reduce the dislocation He was then admitted into hospital For the next fortnight the joint was too painful to allow of any examination being made *without an anæsthetic and as the Roentgen ray* apparatus was unfortunately at this time under repair no further investigation was made the man being kept in bed with his arm on a pillow while evaporating lotions were *applied* As his arm was *absolutely useless* Mr Owen on Nov 21st cut down on to the head of the bone, using the ordinary anterior incision for excision of the shoulder joint There were quantities of soft blood clot both around and inside the joint capsule, while the following conditions were also found to be present (*a*) subcoracoid dislocation of the head of the humerus, (*b*) the great tuberosity had been completely torn from the humerus and broken into a number of small fragments, and (*c*) a small piece of the lower and inner part of the glenoid fossa had been broken off There was, however, no fracture of the surgical neck of the bone As even with the head of the bone thoroughly exposed it was impossible for some reason to restore it to its normal position Mr Owen removed the head by sawing through the surgical neck and closed the wound The man's recovery was uneventful the wound healed by first intention, and he left the *hospital* on Dec 7th *with some slight* movement between the humerus and the scapula —Mr JACKSON CLARKE related the case of an elderly woman who had had her shoulder "out" for five weeks before he saw her As reduction by manipulation *under an anæsthetic was impossible Mr Clarke* cut down and found much the same state of things as in Mr Low's case Without opening the capsule the head of the bone was pulled into place and the œdema of the arm which had been considerable before the reduction passed off About two weeks later the œdema returned and the bone was found to have slipped out of place, probably three days before Mr Clarke saw her The bone was easily replaced but the œdema did not subside no doubt because thrombosis had taken place The head of the bone was excised but the œdema persisted in spite of patient treatment and ultimately the arm had to be removed Probably it would have been wiser to have opened the capsule and wired *the fragments in the first instance*

CLINICAL SOCIETY OF LONDON.

Tuberculous Cavities in the Lung giving rise to Metastatic Abscesses —Myopathy —Results of Operation for Enlarged Prostate

A MEETING of this society was held on Feb 10th, the President Mr LANGTON, being in the chair

Mr W G SPENCER described an exceptional case of Tuberculous Cavities in the Lungs giving rise to Gaseous Metastatic Abscesses in which abscesses formed in the back in the right pleura, and in the upper part of the left thigh the latter bursting into the rectum through the great sciatic notch the disease of the lungs giving *rise to neither* symptoms nor signs The patient was a West African negro, aged 22 years who was attended by Dr Denne for pain in the left knee frequent headaches, and vomiting which he had had for eight months A large superficial
extending from the left scapula to the lowest
opened but no communication with the chest was
the patient still had fever he was admitted to
minster Hospital where a tympanitic swelling
occupying the upper portion of the left thigh and

On opening this multiloculated abscess gas and pus with a fæcal odour escaped and it was found to communicate with the pelvis through the great sciatic notch. There was no ulceration of the rectum and no infiltration of the ischio-rectal fossæ. Later the patient suddenly developed an acute effusion into the right pleura. The fluid aspirated having a fæcal odour and containing pus cells, the right pleura was consequently drained. Then followed a period in which the patient declared himself better; the abscesses in the back and the pleural wound were nearly closed and the man insisted upon getting up and asked repeatedly to be discharged. The septic fever, however, continued and foul yellow pus was discharged from the thigh in spite of frequent irrigation. All the evidence of chest disease was an occasional cough and a few râles. Yet malaria, dysentery, typhoid fever, and fæcal fistula from intestinal ulceration appeared to be clearly negatived. One day, after being five months under observation, the patient suddenly collapsed and died in four hours. Post mortem there was found a tuberculous cavity in the upper part of the right lung of the size of an orange filled by a gummy purulent fluid, whilst the rest of the right and the left lung contained numerous caseous tubercles; there was extensive tuberculous caries of the sixth, seventh, and eighth ribs in the left side and of the eighth and ninth ribs on the right side; the right pleura was thickened and adherent; and the upper part of the left thigh and buttock were completely occupied by multilocular abscess cavities. There was no tuberculous ulceration of the intestines.—Dr. KINGSTON FOWLER said that he had never met with a similar case and he asked whether tubercle bacilli were found in the cavities in the lung. He had also never before heard of fœtid collections in the pleura apart from gangrene or perforation of the lung.—Mr. G. H. MAKINS said that there must have been a mixed infection. Tuberculous abscesses were not fœtid. It was possible that the abscesses were not directly traceable to the pulmonary lesion.—Dr. J. H. BRYANT asked if any anaerobic cultures were made. In a number of cases in which there had been formation of gas the bacillus aërogenes capsulatus had been found. This occurred in one case in which the knee-joint was injured and suppurated with evolution of gas and in a case in which gaseous cavities were found in the liver, in a case of pneumothorax without perforation of the lung, and also in a case of "pneumaturia" in a diabetic patient. The bacillus coli communis had been found by Dr. Pakes in a case under Dr. Bryant's care in which there were gaseous abscesses of the liver, and he believed that they caused the evolution of gas.—Mr. SPENCER, in reply, said that colon bacilli were found in the pus of the abscesses and tubercle bacilli were demonstrated after death in the pulmonary cavities. During life there was no expectoration, and so there was no possibility of demonstrating them. He thought that the ribs had been affected secondarily to the lungs, and that the abscess in the back might have been due to extension from the rib, but that the others were metastatic.

Dr. THOMAS BARLOW and Dr. F. E. BATTEN read a paper on a case of Myopathy with Necropsy in a boy, aged five years. The patient was shown at the Clinical Society in November, 1894, and the following account of the case was given: "The boy had suffered from weakness of the back and legs since birth, he has never talked clearly, but is considered fairly intelligent, he has never had any severe illness. He was a healthy baby and nothing was noted to be amiss till the time when he should have begun to walk. No similar affection occurred in any member of the family except possibly his sister (seen by one of us, T. B.), in whom it is noted that the pectorals and deltoids are small." On admission to the hospital the following note was taken: "He is an intelligent-looking boy, his face, eyes, mouth, and tongue present nothing abnormal. His speech is of the type known as 'idioglossia.' He sits up in bed and holds the back very straight; if placed on his back he is unable to raise himself into the sitting position without turning on to his face. The child is unable to stand and the legs are flexed at the hip and knee. The muscles are everywhere very weak and thin and have a tough feeling. In the upper limbs all movements seem capable of being performed. The latissimus dorsi and pectoral muscles are very wasted; the infraspinatus is comparatively good. In the lower limb both limbs are equally wasted, no hypertrophy, all movements capable of being performed but the legs cannot be fully extended. The knee-jerks are present, equal and active. Sensation is normal to all forms, and the electrical examination shows only a diminution to both faradaic and galvanic elements." The boy developed an attack of gastro-enteritis and died. At the necropsy some defect in the arches of the lower lumbar vertebræ was found; the spinal cord and brain appeared normal. The pectoral muscles were very poorly developed, the serratus was small, the biceps was fairly developed but was pale, and the rectus abdominis muscle appeared normal. The glutei were converted into a mass of fat, and the rectus femoris was poor and thin. Microscopically no lesion could be found in the brain, medulla, and spinal cord. The anterior horn cells appeared quite normal except for the deposit of some pigment which does not usually occur in young subjects. The medullated sheath of the anterior root fibres appeared to be thinned out and not possessed of the regular contour of the normal fibres. In the muscles the following changes were found. There was extreme variation in the size of the muscle fibres, some being considerably larger than normal, and increase in the interstitial tissue between the fibres. Vacuolation was seen in some fibres and a very considerable deposit of fat between the fibres, while a fine granular (? fatty) change was found within certain muscle fibres, rendered apparent by staining in Marchi's fluid. The muscle spindles formed a striking feature in sections of the muscles and were apparently normal. The sensory nature of these organs were no longer doubtful, and it was argued that if it could be proved that these organs remained abnormal while the rest of the muscles underwent atrophy, then it was probable that the primary lesion in this disease lay in that part of the nervous system where the motor and sensory paths pursue separate routes. The authors assigned the case to the group known as the Leyden-Möbius, although hereditary history was wanting in the present case. The muscular atrophy corresponded to the late pseudo-hypertrophic type. Dr. Barlow added that when he showed the boy as a living case to the society he regarded it as a case intermediate between the form of myopathy described by Erb and the older form of pseudo-hypertrophic paralysis described by Duchenne, and Dr. Batten's investigations confirmed this view. At that time the toughness of the muscles, especially in the lower limbs, was very marked. Although there was no history of the disease in older relatives it was yet possible that others in the family might develop signs of it. Limitation of movement on the hip was so marked that some who had seen the patient were inclined to attribute the wasting in the lower limbs to some joint disease. But he felt sure that it was due to contracture secondary to the muscular weakness, particularly from having seen marked limitation of movement in one hip in a previous case of undoubted pseudo-hypertrophic paralysis where it was clearly due to muscular rigidity. He thought that the microscopic appearances supported the view that the changes were [illegible] developmental, there being a proneness to degeneration [illegible] of the muscular fibres which came on earlier in some cases than in others. The absence of the laminæ of the lower vertebræ in the present case also pointed a little [illegible] this direction.—Dr. C. E. BEEVOR thought that the [illegible] significance of hypertrophy had been exaggerated by most writers. In Meryon's cases which were published before Duchenne described the disease there was no [illegible] of hypertrophy. He thought that all forms of myopathy were essentially the same.—Dr. BERTRAM ABRAHAMS agreed that all cases of myopathy were of the same nature. The occurrence of hypertrophied and atrophied fibres in the same section of muscle was similar to a condition seen in the nerve trunks from cases of disseminated sclerosis where swollen and shrunken nerve fibres were seen side by side. He asked if Dr. Batten had found any changes in the motor nerve endings as described by Babes in his atlas.—Dr. SAVILL asked for more explicit information as to the changes in the cauda equina. He thought that there was a real nervous change in these cases affecting the lower motor neuron and not that they were not dealing with a primary muscle degeneration.—Dr. BATTEN, in reply, said that he had not examined the motor nerve endings as it was not possible to stain them in post-mortem specimens. The specimens showed slight changes in the nerve roots as they left the cord, but these could not be traced in the nerve trunks.

Mr. J. R. LUNN gave an account of some results of Operations for Enlarged Prostate. Mr. Lunn said that he had been led to perform this operation by reading the successful case recorded by Mr. Arthur Hunt in THE LANCET of Oct. 3rd, 1896. Case 1.—A man, 62 years of age, was admitted to St. Marylebone Infirmary for enlargement of the prostate and retention. The left vas was removed in May, 898, and as no improvement ensued the right testis was emoved in August, 1896. In August, 1897, the left testis as removed and considerable improvement in the frequency f micturition was experienced. In December, 1898, he eveloped dropsy and died. Case 2.—The patient was a nan, aged 63 years. In February, 1897, section of the right as was performed with some relief, and in June, 1897, he other vas was removed; a month later the patient vas able to go the whole night without emptying his ladder. Case 3.—A man, aged 63 years, had both esticles removed in January, 1897, for tuberculous disease f the epididymis. The prostate was somewhat enlarged at he time of the operation, but at the end of six months it ad shrunk in a very marked manner. Case 4.—A man, 66 years of age, had suprapubic drainage performed for retention of urine due to stricture. The prostate was felt to be nlarged. Later double castration was performed and idymin tabloids were given; he improved remarkably, but e died from diarrhœa six months after the operation. Case 5.—A man, aged 76 years, suffered from frequent micturition, &c., due to enlarged prostate. Each vas was xcised under the local influence of eucaine and the patient was greatly relieved, but he died six months afterwards from cancer of the liver. Case 6.—The patient was a man, aged 64 years, on whom double vasectomy was performed for enlarged prostate with great improvement of symptoms.—The PRESIDENT said that long before this operation was recognised he saw a patient 68 years of age who had tuberculous disease of the right testis and enlargement of the prostate. He removed the testis and when the patient returned four years later on account of similar disease in the left testis the right side of the prostate had undergone considerable shrinkage. The left testis was excised and when seen a few years later the prostate was very much smaller and the patient was very little inconvenienced. He was now 87 years of age and was able to get about comfortably. He asked whether there had been any mental symptoms following the operations.—Mr. W. G. SPENCER said that in some cases the relief to the retention and the backward pressure on the kidney appeared to have been only temporary and it seemed doubtful whether bladder drainage through a suprapubic or a perineal incision was not required as well. He asked whether there were any "eunuchoid" symptoms such as obesity, or thinning or loss of the beard.—Mr. LUNN, in reply, said that none of these cases exhibited any mental symptoms although several of them became very fat.

BRITISH GYNÆCOLOGICAL SOCIETY.

Exhibition of Specimens.—Extra-Uterine Pregnancy.

A MEETING of this society was held on Feb. 9th, Dr. MACNAUGHTON JONES, President, being in the chair.

Dr. BANTOCK showed two specimens of Fibroid Tumour of the Uterus, the first removed by panhysterectomy and the second by the use of the serre-nœud.

Dr. SNOW showed a Myoma removed by abdominal hysterectomy; he had adopted a new plan of dissecting off a thin layer of uterine tissue with the flaps instead of making them of peritoneum only. He also showed a small Myoma removed per vaginam.—Remarks on the specimens were made by Mr. BOWREMAN JESSETT, Dr. EDGE (Wolverhampton), Dr. WALTER (Manchester), and the PRESIDENT.

Mr. MAYO ROBSON (Leeds) read a short paper on the Complete Removal of the Fœtus and Sac in a case of Advanced Extra-Uterine Pregnancy. Leaving aside the questions of pathology and classification of extra-uterine pregnancy and also the question of treatment in the early months, he confined his remarks to the narration of a case and the discussion of the treatment of advanced pregnancy with special reference to the sac. Operation in this case was undertaken two months after full term, the fœtal movements having ceased at term. He incised the sac and removed the fœtus. Finding it would be possible to remove the entire sac he ligatured off the ovarian vessels externally and made a pedicle between the uterus and the sac internally. After separating the anterior layer of the meso-sigmoid which was expanded over the sac the tumour could be shelled out from its bed. The patient made a good recovery. Mr. Robson proceeded to quote a passage from a recent text-book to show that removal of the entire sac was not worth considering after the fourth month. Mr. J. W. Taylor in his Ingleby Lectures described the removal of the sac in intra-ligamentous pregnancy as unnecessary and dangerous. Kelly, on the other hand, advocated the removal of the sac whenever it was practicable. He would suggest the following general rules. When the fœtus was found among the intestines and had been removed, if the placenta was attached to the expanded tube it could probably be removed, but if spread over the intestines or large vessels it was safer to leave it and pack the placental area with gauze. If the fœtus was enclosed in a sac, then after extraction of the former the sac should be examined to see if its removal was practicable. The preliminary securing of the uterine and ovarian arteries would simplify the subsequent procedures. It would do no harm if very adherent portions of the sac were left if their detachment presented unusual difficulties.

Dr. MACPHERSON LAWRIE (Weymouth) read a short paper on a case of Ectopic Gestation which he recorded as a possible instance of ovarian pregnancy.

In the discussion on these two papers the PRESIDENT elicited from Dr. Lawrie that there was no critical proof that it was a case of ovarian ectopic gestation nor was it shown that any corpora lutea were contained in the tissue examined.—Mr. BLAND SUTTON emphasised the distinction to be drawn between the cases where the pregnancy was abdominal, in which the sac was formed only by fœtal membranes, and those in which it was intra-ligamentous, when the tissue of the broad ligament entered into the formation of the sac. The former were rare; he had only seen one out of 16 cases of advanced ectopic pregnancy; in these cases the sac could be removed without difficulty. But when intra-ligamentous the removal of the sac was a formidable matter and should not be attempted.—Dr. BANTOCK concurred with Mr. Bland Sutton's views. The first case he saw was one in which the live fœtus was lying within its amniotic sac in the general peritoneal cavity. The attachments of the placenta were such that any attempt to remove it must have proved disastrous. He had seen only one case of rupture into the broad ligament and the case showed that the proper treatment was opening the sac, emptying it of its contents, stitching it to the parietes and draining.—Dr. WILLIAM WALTER (Manchester) pointed out the great difference there was in operating on advanced cases of ectopic pregnancy after the fœtus was dead. To remove the sac under those circumstances was not attended by the same danger as when the fœtus was still living.—Dr. F. EDGE said he had had the pleasure of hearing Mr. Taylor deliver the Ingleby Lectures which marked a step in their knowledge of the subject. In tubo-abdominal cases it was pointed out that the sac and placenta were almost entirely tubal and that the vessels were ovarian and uterine; if these supplies were controlled the case was in the surgeon's command.—Dr. ARTHUR GILES thought the distinction between the two kinds of sac so clearly drawn by Mr. Bland Sutton was of the greatest importance. In corroboration of Dr. Walter's remarks he mentioned a case of ectopic intra-ligamentous pregnancy at five months in which the fœtus had been dead about two weeks; here he was able to remove the entire sac.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Cases.—Idiopathic Dilatation of the Stomach.

A MEETING of this society was held on Feb. 9th, the President, Dr. MACFIE CAMPBELL, being in the chair.

The report of a committee to the effect "that house surgeons be allowed to charge fees for reports under the Workmen's Compensation Act and that such fee should be a guinea when the report is for an insurance company or employer of labour" was adopted.

Mr. THELWALL THOMAS exhibited a patient from whom he had removed an Epithelioma of the Larynx by Thyrotomy.

Mr. T. H. BICKERTON showed a patient, aged 51 years, on whom he had performed the "grattage" operation for severe Trachoma. The disease was of long standing, the corneæ were opaque from "pannus," and for 21 months he had been unable to follow his employment. He could only count fingers. The cornea of the right eye (the only one operated upon) was clear, and his vision was $\frac{6}{18}$ and Jaeger 8.—Dr. ALEXANDER, Mr. RICHARD WILLIAMS, and Mr. RUSHTON PARKER spoke.

Dr. T. R. GLYNN [illegible] and

Treatment of Idiopathic Dilatation of the Stomach. He considered no single symptom or symptoms as pathognomonic. Some cases originated from hyperchlorhydria. Vomiting was more particularly discussed and its absence in many cases was noted. Gastric crises and constipation or diarrhœa as a crisis of purging in the morning or as a chronic affection with much mucus in the evacuation was often present. As general symptoms neurasthenia, a flabby abdominal wall, with tendency to hernia, and moveable right kidney were mentioned. The disease was frequently met with in young men between 18 and 30 years of age. He considered that the affection occurred almost invariably in the neurotic. Treatment should be directed to the nervous system and be general rather than local. He advised caution in the use of the stomach tube.—Mr. **RUSHTON PARKER** had explored one case of dilated stomach which proved to be idiopathic dilatation, although the patient had suffered from symptoms referable to gastric ulcer. The pylorus was found to be patent and readily dilatable and the abdomen was closed. Cessation of symptoms followed this and four months later the man appeared quite well.—Dr. **ARCHER** had met with a considerable number of cases in a minor degree in young men and women. He thought irregularity of meals and want of exercise conducive to the production of dilatation of the stomach and that there was often atonic dilatation of the intestines present. He had found nux vomica and the mineral acids useful.—Dr. **IMLACH** alluded to the striking contrast in the modern views as to surgical interference.—Dr. **GILL**, Dr. **GRÜNBAUM**, Dr. **DAVIES**, and Mr. **PAUL** spoke.

Report of the Tuberculosis Committee.

The following report was presented by this committee:—

Origin of the committee.—At a meeting of the Liverpool Medical Institution held on Dec. 1st, 1898, it was unanimously resolved: "That a committee be appointed to consider what further steps can be taken for the prevention of tuberculosis in the city of Liverpool and for the treatment of the disease in the human subject and to report thereon to the institution."

Retrospective.—The committee desire to express their satisfaction that tuberculosis has declined in so remarkable a degree during the last thirty years. This diminution they attribute for the most part to the improved industrial social and moral conditions of the people and to the better sanitary state of their homes and general surroundings. The latter is mainly the result of the enlightened action of the City Council in promoting the sanitation of the city and the committee are of opinion that the extension of the same policy will tend to reduce still further the prevalence of tuberculosis. These measures have, however, been carried out with a view to the improvement of the general health of the community rather than to the prevention of tuberculosis; and their influence, though considerable, has been less conspicuous on the prevalence of this than of other forms of preventable disease. Measures adopted specially to deal with the infection of tuberculosis—namely, the inspection of the milk- and meat-supply and the enforcement of stringent regulations with regard to shippons—have been attended with obvious benefit. The reduction in the mortality from tuberculosis which has resulted from the efforts hitherto made to improve the health of the community encourages the committee to believe that a much greater and more rapid diminution might be expected to follow the adoption of further measures especially designed to cope with it, and the committee, in accordance with their instructions, have framed the following recommendations to that end:—

1. *Diffusion of information respecting tuberculosis.*—A disease which affects at least one-tenth of the population can only be adequately dealt with by enlisting the enlightened coöperation of the people themselves. The committee therefore recommend that further steps should be taken to make the people of Liverpool acquainted with the main facts concerning the nature, causes, prevention, and treatment of the disease. With this object in view they have drawn up a statement which they suggest should be widely circulated by the health authorities through suitable channels. In this statement special stress is laid on the value of fresh air and sunshine in the prevention and cure of tuberculosis and on the importance of destroying the sputa of consumptives.

2. *The arrest of tuberculosis by diminishing the sources of infection, &c.*—With regard to the organised steps which might be taken to arrest the spread of tuberculosis the committee attach the highest importance to all measures which tend to improve the sanitary condition of the people, more especially the admission of abundant air and sunlight to their dwellings. They are impressed with the very definite evidence of the advantage which has arisen from the demolition of insanitary and unwholesome dwellings and from opening up the densely populated quarters of the city. They consider that the results of the work of the corporation in this direction clearly indicate the wisdom of advancing still further on the same lines with as little delay as circumstances will allow. The committee are decidedly of opinion that the best interests of the labouring classes will be served if they are re-housed in conveniently accessible outskirts open to air and sunlight rather than in central parts of the city in the midst of warehouses and other buildings associated with increasing commerce. The committee consider that the fact should be made widely known that persons of intemperate habits succumb rapidly to tuberculous disease. The records of hospitals and workhouses furnish abundant evidence that this fatality is a direct outcome of the associations inseparable from the constant abuse of alcohol. As regards the risk of healthy persons becoming infected from consumptive patients with whom they are living, the committee trust that this will be greatly diminished by the diffusion of information as to the proper means of dealing with the sputum and by attention to the hygiene of the dwellings of the people. In those cases, however, in which the necessary precautions cannot be properly carried out it is eminently desirable that the consent of the patient and his friends should be obtained to his removal to some suitable institution where the danger of his becoming a source of infection to others would be obviated.

3. *The provision of sanatoria and special hospital accommodation.*—As regards the important question of treating those who are the subject of tuberculosis the committee are strongly of opinion that special provision is needed for them on an adequate scale. They cordially approve the suggestion that boards of guardians should establish sanatoria in some rural localities, chosen with a view to their fitness for the treatment of such cases, and that all cases of consumption which are likely to be cured or materially benefited should receive treatment therein. For those cases which offer no reasonable hope of recovery they recommend that special wards in the present union hospitals should be set apart. The problem of providing for sufferers from tuberculosis who are above the pauper class but are unable to bear the expense of the prolonged rest and change which are so essential for the treatment of consumption the committee consider has been greatly simplified by the generous donations made by Lady Willox and Mr. W. P. Hartley to the committee of the Hospital for Consumption and Diseases of the Chest for the purpose of erecting a sanatorium at West Kirby. They desire to record their high appreciation of the value of this munificent gift to the community and they trust that the sanatorium when established will receive liberal support. They are also of opinion that it is not desirable that any extensive provision should be made for the treatment of consumption in the city.

4. *Voluntary notification of infected houses and disinfection of the same by the health authorities.*—The committee have carefully considered the question of scheduling tuberculosis as a notifiable disease. They are of opinion that at present public opinion is not ripe for such a measure. They propose, however, that medical practitioners should be invited to inform the medical officer of health of cases of tuberculosis in which disinfection or other precautionary measures will, in their opinion, be attended with benefit. The medical officer of health has informed the committee that he is prepared in all cases in which the necessary consent can be obtained to carry out disinfection of the dwellings, clothing, and other effects.

Dr. T. R. **BRADSHAW** proposed, and Dr. **HOPE** seconded, the adoption of the report.—After discussion in which the **PRESIDENT**, Dr. **GILL**, Dr. **IMLACH**, Dr. **PERMEWAN**, Dr. **GLYNN**, Dr. E. T. **DAVIES**, Dr. **BUSHBY**, and Mr. **RUSHTON PARKER** took part the report was adopted.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

The Spread of Typhoid Fever.—Ligature of the Common Carotid Artery in Hæmorrhage from the Ear.—Exhibition of Cases and Specimens.

A **MEETING** of this society was held on Feb. 3rd, the President, Mr **EDWIN LEE**, being in the chair.

Dr. **SPOTTISWOODE CAMERON**, in a paper on the Spread of Typhoid Fever, took it for granted that everyone acknowledged the necessity of a specific bacterium as the cause of the disease. Sudden outbursts of typhoid fever like that at Maidstone were generally associated with the water-supply but was it not possible that in some cases a more diluted poison selecting the more susceptible individual might be responsible for some of the increased autumnal prevalences of the disease? It has been noticed in milk outbreaks that members of a family taking only a few teaspoonfuls of milk to discolour their tea escaped infection whilst those taking larger quantities raw succumbed. Might not similarly the amount taken along with the susceptibility of the individual be the determining factors of the attack in cases of slightly polluted water? Water obtained by impounding natural streams was more or less polluted. Even our uplands are not primitive deserts. Nestling in sheltered ravines upon their slopes are shepherds' and herdsmen's houses, farmsteads, pastoral and even to a slight extent agricultural. Their pastoral and bucolic inmates are not greatly concerned to protect the water-supply of the distant town. The manure heap, privy, and slope stone are there and the fall is towards the runnel making for the reservoir. The outbreak in the Tees Valley, the increased typhoid fever notifications in London following the passage of flood water over the Thames companies' filter-beds are suspicious circumstances. As to milk the insistence upon a pure and properly guarded water-supply to every milk farm would make such outbreaks rare. It was impossible altogether to ignore the possibilities of aërial convection. In a case which Dr. Cameron had recently published in the *Surveyor* he had shown how in a public institution the only common food of those attacked was milk, that the sources of the milk-supply were pure, and that the infection of the milk must have occurred in the keeping cellar which communicated with the drain. The milk could only have been infected by the passage of the poison through the

The cases were many in which the person attending atient was the *only other member of a family to be* cked by the disease. In others neighbours using *mon conveniences, especially middens, contracted* hoid fever. While in well-ventilated rooms with immeo and complete disinfection of the excreta the risk of ction was small, it was otherwise in a small cottage re an exhausted mother waited upon a child and re soiled linen was stored close to the food-supplies. épine had isolated the typhoid bacillus from soil taken n below a "disinfected" midden and Sidney Martin, days after inoculation, had been able to cultivate the illus from non-sterilised humus kept meanwhile in outer shed at a temperature varying from 3° to C. Finally, Dr. Cameron advocated (1) the thorough ection of the sources of water-supplies, and he ught it advisable that water authorities should themes own their gathering grounds; (2) the protection from tamination of the soil around dwellings and upon which houses were to be built; (3) the cremation of the *hoid bacillus as it leaves the person of the patient; and,* ecure this, (4) early notification by the practitioner even doubtful cases. He feared much that what was called nfection consisted in destroying the competitive illi and leaving Eberth's in full possession of the field.— EVANS (Bradford) pointed out that the term "aerial contion" as used by Dr. Cameron in reference to the spread of hoid fever was quite as *reasonable as* when applied to the usion of small-pox. The poisons of the two diseases are ognised as being microbic and they could therefore be veyed in the same manner. Nevertheless it must be nitted that the distance through which the germs of hoid fever may spread would be much less than the tance covered by the particulate infection of small-pox.— BARRS and Mr. A. E. A. PEARSON both thought that if ses contracted typhoid fever it was due to an imperfect infection of the hands.—Surgeon-Major ROBINSON, Dr. *ETHAM, Dr. JOHNSTONE, Dr. CHURTON, Dr. GRIFFITH,* l the PRESIDENT also joined in the discussion.

Mr. WHITEHEAD read a paper upon the Ocular Phenomena ociated with Cheyne Stokes Breathing.

Dr. STEWART related a case of Hæmorrhage from the Ear cessitating Ligature of the Common Carotid, and said at on May 18th, 1898, he was called to a child suffering m hæmorrhage from the ear. On arrival he found a girl, ed three years, lying on a sofa almost lifeless. Three eks before she had got thoroughly wet and a few days afterrds a lump appeared at the angle of the left jaw with pain swallowing. On the fourteenth day from the appearance of e swelling in the neck the child complained of intense earhe; a few hours afterwards there was a profuse discharge foul greenish pus from the left meatus, and 48 hours terwards there was an attack of hæmorrhage from the ear, llowed by another on the same day and two more on the y following. The bleeding always ended *in faintness.* . Stewart saw the child on the third day from the mmencement of the hæmorrhage, when she had another tack. He packed the external meatus with gauze and ndaged the head up tightly, but as the bleeding recurred ring the night the mother *consented* to an operation. e left common carotid was ligatured. The child was ite well within a week's time. The blood was distinctly nous in character. The only change which was noticeable ter the operation, and which still persists, was a flushing of e right side of the face with profuse sweating on exertion, compared with pallor of the left side, on which the carotid tery was tied.—Dr. TEMPEST ANDERSON, Mr. BROWN, Dr. RIFFITH, and Mr. WHITEHEAD took part in the discussion.

The following cases and specimens were exhibited:—

Dr. JENKINS: A case of Raynaud's Disease.

Mr. SIMS: Fœtal Monstrosity.

Dr. BRAITHWAITE: (1) a Dermoid Cyst; (2) an Ovarian st containing Warts; and (3) a Small Ovarian Cyst.

Mr. WARD: (1) Total Excision of the Lower Jaw (patient d specimen); (2) Skiagraphs of (*a*) Luxatio Erecta of e Shoulder, (*b*) Simple Dislocation of the Ankle without acture, and (*c*) both Wrists, one in the Early Stage of berculous Disease; (3) a case of Abscess of the Tibia eated with Dr. Robinson's Decalcified Bone-Dressing;) a case of Tenoplasty.

Dr. GRIFFITH: (1) A case of Post-diphtheritic Palsy in a an, aged 58 years; (2) Specimens from the Post-mortem oom.

Dr. CROFT: (1) Double Hydrosalpinx; (2) Fibrous and Cystic Tumour of the Ovary; (3) Sarcoma of the Uterus (*microscopic specimen*).

Mr. THOMPSON: Specimen of Gangrenous Appendicitis.

Dr. BARRS: (1) Tuberculous Lesions *of the Hands, Ears,* and Glands; (2) Œsophageal Obstruction, with Paralysis of the Left Vocal Cord; and (3) Thoracic Aneurysm.

Mr. LITTLEWOOD: (1) Gangrene of the Hand following Simple Fracture of the Forearm due to Rupture of the Ulnar and Anterior Interosseus Arteries; and (2) Ruptured Tubal Gestation.

Dr. SHARP: Specimens of Paraguay Tea.

Mr. LAWFORD KNAGGS: A case of Bony Ankylosis of the Jaw.

Dr. HELLIER: Tuberculous Peritonitis treated by Abdominal Section. (The patient was shown.)

Dr. TREVELYAN: (1) A case showing Coarse Fibrillary Contractions in the Calf Muscles; (2) a case of Affection of Speech; and (3) a case of Locomotor Ataxy in a Machinist.

EDINBURGH OBSTETRICAL SOCIETY.

Exhibition of Specimens.—The Present Position of the Pessary in Gynæcological Practice.—Vaginal Hysterectomy for Cancer of the Uterus.

A MEETING of this society was held on Feb. 8th, Dr. J. HALLIDAY CROOM, President, being in the chair.

The PRESIDENT showed a Simple Ovarian Tumour from a patient who after its removal developed acute mania and died two days afterwards from exhaustion. This sequela of ovariotomy he believed to be unique. The mental-family history was not good. Post mortem no trace of abdominal disease was found.

Dr. J. W. BALLANTYNE read a paper on the Present Position of the Pessary in Gynæcological Practice. In order to gauge the trend of professional opinion on this subject he had examined the opinions expressed in recent *medical literature and* also the experience of instrument makers supplying the profession. From the latter source he found that there had been during the last 20 years a steady increase in the number of pessaries sold to the profession; and along with this a steady decrease in the number of varieties asked for, so that now the ring and the Hodge pessaries in one form or other and occasionally the vaginal stem with an abdominal belt constituted practically the only ones in common use. Medical men showed a marked tendency, after trying various forms of the Hodge pessary, to return to the Albert Smith modification in vulcanite, and after testing different kinds of rings to revert to the use of the simple rubber instrument containing a watch spring. More marked than the increase in the use of pessaries had been the growth in the demand for uterine curettes, especially of Martin's. The sale of these in the last six years had been remarkable *and there had been a striking decrease* in the popularity of caustic holders and instruments of that type. Intra-uterine stems were hardly ever asked for. Dr. Ballantyne then analysed the opinions expressed in 20 text-books on gynæcology published in the last 10 years. Of these eight authors were strongly in favour of this method of treating uterine displacements, five were strongly against it, and seven were critical, and even sceptical, without actually going so far as to condemn the method and banish the instruments. Different objections had been raised to the use of pessaries, *and there* was the inconvenience, as they required attention by frequent douching and occasional visits to the physician and might interfere with marital relations. Some considered even properly adjusted pessaries to be inefficient and doubted if they were ever the cause of relief from symptoms; most had no doubt at all that they never really cured in the sense of complete restoration of the normal position of the parts. Some averred that they were not only ineffective but also injurious and even dangerous; some considered all pessaries as dangerous; others only condemned the intra uterine stem, the Zwanck and the large ball pessary. *They were also credited with* being the cause of pruritus, vaginitis, ulceration, fistulæ, prevention of union of a torn cervix, subinvolution, cancer, and septic inflammation of the uterus and tubes. The supporters of their use claimed that any inconvenience or attention necessitated by the pessary was not to be compared with the trouble [illegible] n operation. Besides, they were [illegible] symptoms and sometimes longer or shorter time. Most admitted that the ordinary vaginal pessaries with ordinary care were perfectly safe; and some stated that with special care intra-uterine stems might also be considered innocuous. Opinions varied with regard to the suitability of pessaries to the different conditions. In incomplete prolapse of the uterus when the perineum could be depended on many recommended the indiarubber ring or Hodge-Smith pessary with or without transverse bars according as there was or was not some degree of cystocele. The results were that symptoms were relieved, it kept the replaced uterus in position and it gave time for the normal uterine supports to regain their tone, and if a pregnancy should occur or the climacteric be near this benefit might become permanent and a *real cure effected*. Most writers, however, believed that the benefit was only palliative and the relief temporary. The alternative treatment recommended in these cases without the use of pessaries was rest, douching, ichthyol, glycerine tampons, anterior colporrhaphy, perineorrhaphy, ventro-fixation of the uterus, or Alexander's operation. In complete prolapse where the support of the pelvic floor was lost the only possible pessary was the stem, with an abdominal belt, outside straps, and a perineal pad. The Zwanck and all instruments with hinges and screws were now generally regarded as both unsatisfactory and dangerous. For anteversions most authorities were now agreed that to try to treat anteversion of the uterus by pessaries was to use means which were inadequate to remedy a condition which was not itself productive of trouble. Anteflexion was accompanied by well-marked symptoms and the use of pessaries for its relief was narrowed down to the justifiability of employing an intra-uterine stem. All *recognised the risks of sepsis*, inflammation and perforation of the uterus. The most suitable seemed that recently introduced by Lefour which was entirely uterine without any vaginal portion. The galvanic stem was also used. In retroversions of the uterus most writers agreed that their correction by a pessary was followed by an amelioration or a total disappearance of the symptoms, also that they scarcely ever effected a permanent cure, the symptoms returning on withdrawing the instrument. The ring and Hodge-Smith pessaries were generally used for these conditions, the latter being carefully fitted to the size, shape, and curvature of the vagina.—Professor SIMPSON, Dr. HAULTAIN, Dr. CHURCH, Dr. LACKIE, and others engaged in the discussion.

The PRESIDENT read a paper on Vaginal Hysterectomy for Cancer of the Uterus. He said that the immediate risks of the operation when undertaken in circumstances at all favourable were small. Those cases which succumbed shortly after operation could only be badly selected ones, where the fornices were small, where the disease had involved the posterior wall of the bladder (a condition always difficult of diagnosis beforehand), or where sepsis had resulted; but in well-selected cases this event was seldom to be expected. A case not only to be immediately but also remotely successful must necessarily be attacked in its most early stage. A very early carcinoma of the cervix, still more an early tubular carcinoma of the body of the uterus, would, under ordinary circumstances, give an expectation of life for the patient of from 18 months to three years. With sarcoma the expectation was distinctly longer. *Out of over 200 cases of cancer he had only found 14 which were suitable cases for operation* and when the operation should have given every prospect of success. The cancer was strictly limited and in the early stage and they should have done well. Yet in all the disease returned and he believed that the women's lives had been shortened and that certainly the death was more painful than in those cases which were not operated upon. A woman's expectation of life with uterine cancer was from two to five years; the result of his experience was that with recurrence of the cancer after operation the life was shortened. *His experience in vaginal hysterectomy* for cancer had been an unfortunate one.—Dr. N. T. BREWIS, Dr. HAULTAIN, Dr. BALLANTYNE, and others took part in the discussion.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—The fourth meeting of the forty-second session of this society was held at the Royal Kent Dispensary, Greenwich-road, S.E., on Feb. 3rd, Dr. Morgan Dockrell, President, being in the chair. Five new members having been elected and several members admitted, Dr. Dundas Grant read a paper on *cases of Chronic Suppuration of the Frontal Sinus and Antrum of Highmore treated exclusively through the Nose with good result*. After a few preliminary remarks as to the recognition of latent empyema of one or more of the sinuses of the nose when evidenced by free purulent discharge, often unilateral and usually accompanied by a fetor of which the patient was conscious, Dr. Dundas Grant proceeded to describe the various methods of treatment. The most generally recognised and practised was a puncture made through the alveolus of an extracted tooth extending into the antrum, through which fluids could be introduced by means of a syringe with a suitably adapted tip. For convenience of use by the patients this method was certainly superior to all others. It was originally supposed that empyema of the antrum invariably arose from disease of the teeth in this neighbourhood. This, however, was not always the case, and Dr. Grant narrated an instance of a patient with empyema of the antrum of several months' duration whose teeth were absolutely perfect. He washed out the antrum on two occasions with Lichtwitz's cannula and trocar, introduced through the inferior meatus of the nose, and was surprised to find that the patient recovered so completely that no further treatment was required. In view of such a case he was convinced that empyema of the antrum could arise from other causes than disease of teeth and that the alveolar puncture was not always called for as a method of treatment. In another case in which the alveolar puncture had been made and a tube had been introduced very little improvement took place and the suppuration persisted. The tube was then extracted and the alveolar opening was allowed to close, the antrum was washed out by means of Lichtwitz's trocar and cannula from time to time, and a complete rapid recovery ensued. This led Dr. Grant to the conclusion that the alveolar puncture was not always satisfactory, and that in point of fact it was sometimes injurious. Other cases supported this view. He considered that the presence of a communication between the mouth and the antrum was apt to lead to repeated infection of the antrum through the mouth. He brought before the meeting a patient in whom the alveolar irrigation had to be given up on account of the irritation which it produced and the absence of diminution of discharge. The treatment was carried out by means of Krause's coarse antral trocar introduced through the inferior meatus of the nose, the anterior extremity of the inferior turbinated body having been removed so as to render the introduction easy. Complete recovery resulted. The conclusion was that in the absence of obvious dental causes treatment should be carried out through the nose and that it was quite unjustifiable to extract a sound tooth so as to make an alveolar puncture for diagnostic purposes. On the other hand, if the cause was obviously dental or there was a gap in the line of teeth the alveolar puncture was by far the most convenient and desirable method of treatment. In regard to the frontal sinus he believed that the dependent position of the orifice was favourable to spontaneous recovery. The middle meatus of the nose ought to be freed by the removal of polypoid growths and it was often desirable to remove the anterior extremity of the middle turbinated body. In several instances he had brought about a complete cure by these procedures followed by the introduction of mentholised vaseline oil into the cavity by means of a suitable curved cannula. This introduction was possible in probably about 50 per cent. of cases. Naturally no such method of treatment was efficient in old-standing cases in which the frontal sinus was filled with polypoid or granulation tissue. Then the external operation was necessary, but in view of the uncertainty as to the condition of the interior of the cavity Dr. Grant insisted that a fair trial should be given to the intra-nasal methods before resort was made to this more serious proceeding.—The paper was discussed by the President, Dr. Scholefield, Mr. J. P. Purvis, Dr. Toogood, Dr. Lorimer Hart, Mr. Ernest Clarke, Mr. H. W. Roberts, and Dr. H. A. Munro.—Dr. Grant replied and the meeting then adjourned.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on Feb. 10th, Dr. E. Gwynn, President, being in the chair.—Dr. F. J. Allan read a paper on Diphtheria especially in regard to the Duration of Infection and the Use of Antitoxin as a Prophylactic. In the absence or the neglect of facilities for the bacteriological examination of the throats of convalescents many cases were, he believed, allowed to mix with the healthy at much too early a stage. Fortunately the bacillus in the majority of cases lost its virulence in a week or two after the disappearance of the membrane, but it might persist in a more or less virulent state for many weeks or even months. The question then arose whether these bacilli could under favourable conditions regain their virulence, rendering such persons again infective. The New York Board of Health believed such recovery of their virulence to occur very rarely if ever, but Sir Richard Thorne and Dr. Hubert Airy maintained the "progressive development of infectivity," and Dr. D. Astley Gresswell had called attention to the "recrudescence" of diphtheria, a remarkable case having recently been reported by Golay of three recurrences of the disease in the same individual within a year, the bacilli being in the intervals non-virulent. The prophylactic use of antitoxin had not as yet made much way in this country, but in Germany and in America it was carried out extensively and with the greatest success. The position had been well expressed by Dr. Sims Woodhead: "It had been proved to the hilt that whichever agent (toxin or antitoxin) first gained access to the tissues it held the field except against the attacks of enormously greater quantities of the other. If the toxin got in first and were left unmolested for some time it could with difficulty be neutralised even by large quantities of the antitoxin, whereas small quantities of antitoxin already circulating in the fluids of the body rendered innocuous the attacks of comparatively large doses of the toxin" After narrating with much detail an instructive experience of his own in connexion with a recurring outbreak of diphtheria in a school he described the course of procedure for the diagnosis, bacteriological inspection, and elimination of the disease, remarking that with the highly concentrated sera now in the market the prophylactic dose of from 100 to 300 units was very small in volume. —Dr. Symons said that in Bath whenever a case was notified he offered to immunise the family with the consent of the medical attendant. Antitoxin treatment was most successfully carried out in their hospital.—Dr. Goodall said that he isolated adults for four weeks and children for six after the disappearance of membrane and that he immunised doubtful cases. — Dr. Bulloch said that he had been working at the bacteriology of diphtheria for seven years and was more impressed now than ever with the difficulties attending the diagnosis. The reaction was useless; Neissler's was the most trustworthy of all tests, but virulence could be determined only by experiments on the guinea-pig Three or four days were required for an absolute diagnosis Pseudo-bacilli were of many kinds and some had been cultivated up to virulence by Hewlett and Salter. He had himself found virulent bacilli in the throat six months after complete convalescence and in that of an assistant who had never suffered from the disease. Abel, too, obtained them from a toy with which a diphtheritic child had played six months before. The duration of immunity depended on the dose of antitoxin, but never much exceeded three weeks, and susceptibility was greatly a question of age. Antitoxin had no influence on the bacilli, which could be destroyed only by washing the throat with effective bactericides. Diphtheria was rarely if ever spread by means of air or water and not often by milk; the usual mode of diffusion was association of susceptible persons with others who carried in their throats bacilli which might or might not be virulent to themselves.—Dr. W. A. Bond, Dr. Christopher Childs, Dr. Willoughby, and others having spoken Dr. Allan replied.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 1st, Mr T. D. Pryce, President, being in the chair.—Dr. Handford read notes of three cases which had been under his care. The first was that of a girl who had been under observation for three and a half years with symptoms of Intracranial Growth. The illness commenced about eight months before admission when she woke up one morning with partial left-sided hemiplegia. Later a lump appeared in the right frontal and parietal regions which was excessively tender. She was trephined and the disease proved to be an inflammatory thickening of the bone which had pressed on the brain The skull was more than one inch thick in the area named.—Mr A. R Anderson who performed the operation spoke on the case, contrasting the use of the trephine and forceps with that of the mallet and chisel. He considered that the shock of operation was much less with the former than with the latter.—Mr. Willis said that he had had the privilege of seeing the case before operation through the kindness of Mr. Anderson and he expressed at that time the opinion that the disease was one of inflammation in the bone, arriving at this conclusion from the excessive tenderness of the bone which amounted to agony when gently tapped with the finger. The operation produced marked improvement in the symptoms and general condition of the patient who was shown.—Dr. Handford's second case was one of some obscurity but was thought to be Actinomycosis of the Transverse Mesocolon. The patient was a man who was admitted to hospital in August, 1898, with abdominal pain and diarrhœa. During his stay in the hospital he wasted rapidly, losing four stones in weight in six or eight weeks; he also had repeated rigors and jaundice on one occasion which lasted 24 hours only. An exploratory cœliotomy was performed and a large mass was discovered about the head of the pancreas, the intestines being matted together. Nothing could be done and the wound was closed. He died and the necropsy revealed a large dense mass of fibrous tissue in the transverse mesocolon, with numerous scattered abscesses. Ulceration had taken place from without into the stomach. The ray fungus was not able to be demonstrated beyond doubt in any of the pus.—Mr. A. R. Anderson spoke on this case, he having operated, remarking that he had no doubt that the disease was actinomycosis. He had operated on about 12 cases of this disease now and had been present at necropsies on several other cases, and his experience warranted his opinion of the nature of the disease, even in the absence of any discoverable ray fungus.—Dr. Handford's third case was that of a lad who had been treated for five weeks at the General Hospital for Chronic Gastric Ulcer of which disease he had the classical symptoms. He much improved and was sent to the convalescent home. Shortly afterwards he was re-admitted with abdominal pain, distension, vomiting, and a febrile temperature. Tuberculous peritonitis was diagnosed and Mr. A R. Anderson performed cœliotomy, the diagnosis being verified. The patient soon afterwards died. Dr. Handford suggested that he had become infected with tuberculous milk during his stay in the convalescent home, his diet having consisted of milk at that time, and that he had the more readily become a victim to the disease on account of his old long-standing gastric trouble.

ANATOMICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—A meeting of this society was held at St. Bartholomew's Hospital on Feb. 10th, Professor Alexander Macalister, F R S, President, being in the chair.—Mr C. B. Lockwood gave a lantern demonstration of a Suprarenal Structure found in the Inguinal Canal and showed several specimens with such bodies attached to the spermatic cord which had been mistaken for hernia. The explanation of the position in which those structures occurred was to be found in the close relationship between the suprarenal and Wolffian bodies in an early stage of the human embryo.—Mr Cecil H. Leaf exhibited specimens and drawings of the Liver, hardened *in situ*, showing the so-called Riedel's lobe Mr. Leaf held that it was not a lobe in any strict sense of the word, but merely a localised prolongation downwards of the anterior margin of the liver in the neighbourhood of the tenth costal cartilage. It occurred much more frequently in women than in men and in all degrees of development. It might be very slight—a common condition—or long and linguiform, reaching several inches below the costal margin, and in such forms simulating floating kidney. It did not appear to occur in children and was probably caused by pressure—Professor F. G. Parsons and Dr. G. F. Rogers showed specimens of Abnormal Lobulation of the Liver. The lobulation did not answer to any division known to comparative anatomists—Mr. H. J. Waring showed a specimen in which the Cystic Duct which was much dilated joined the Common Hepatic Duct in the neighbourhood of the Duodenum so that the common bile-duct was extremely short—Mr. R H. Burne drew attention to the extremely anomalous arrangement of the bile-ducts in the common otter. The cystic and hepatic ducts formed an elaborate network, recalling the arrangement found in certain reptiles—Dr. A. Keith brought forward Evidence to show that the Forms of Liver found in Man and the Higher Primates was adaptative to the Upright Posture.—Professor Arthur Thomson laid before the meeting Specimens and Drawing showing several minor fissures on the Under Surface of the Right Lobe of the Human Liver which were constant in occurrence and had been regarded as pathological. These fissures were represented in the liver of the gorilla by deep continuous fissures and were also much more marked in the human fœtus.—Dr. G. F. Rogers showed a specimen in which the Musculo-cutaneous Nerve was absent and also the Pedal Part of the Anterior Tibial, their places being supplied by branches from the saphenous nerves.—Dr. E. Barclay Smith showed a specimen of Divided Parietal Bone and reviewed the literature of this rare abnormality.

Pathological Society of Manchester.—A meeting of this society was held on Feb. 8th, Dr. R. B. Wild, President, being in the chair.—Dr. Trevelyan (Leeds) read a paper on the Diphtheria Bacillus, based on the examination of suspected exudation in the laboratory of the Leeds Medical School. He thought that the aggregation of the protoplasm in certain parts of the microbe was more characteristic than any arrangement of the micro-organisms in regard to each other. The short bacillus had been comparatively rarely found in these examinations but mixed forms were often present. Occasionally anomalous forms in the shape of long and short clubs had been obtained, but this no doubt depended largely on the nutrient medium used. Branching forms had not been seen, cultivation on white of egg usually yielding the long form. Neisser's method of staining required manipulation and perhaps the help to be obtained from it in doubtful specimens, especially of the short bacillus, is hardly as great as was at first expected. The serum media are of such value in the cultivation because the diphtheria bacillus outgrows other microbes, at least within the first 24 hours, but the cultivation can be continued on other media equally well. The growth obtained on antitoxic serum was sparse. Grown on alkaline litmus lactose agar, typical forms did not always produce acid. This acid production, especially in glucose media, could not be of great value in the rapid diagnosis. The characters of the diphtheria colony were then discussed and illustrated by drawings and impression and other specimens. The colony is frequently thicker in the centre but sometimes also round its margin. The slightly irregular margin and its somewhat dry aspect and loose attachment to the medium are important characteristics, but it is not always possible to recognise it with certainty. Finally, Dr. Trevelyan expressed the opinion that the bacteriological examination is of great importance to the clinician in not an inconsiderable number of cases, yet if the full value is to be obtained the results must be promptly communicated, thus in the large majority of cases it is possible to report by telephone or other means within 24 hours of receiving the specimens.—Professor Jones and Dr. Kelynack showed preparations of a Sarcoma of the Left Kidney which had been successfully removed by lumbar nephrectomy from a man, aged 50 years. The chief symptoms had been hæmaturia and pain. The growth consisted of a very vascular myxo-sarcoma involving almost the whole of one end of the organ.—Mr. Wright and Mr. Coates described an unusual case of Diverticulum of the Bladder not due to obstruction.

British Laryngological, Rhinological, and Otological Association.—A meeting of this society was held on Jan. 27th, the President, Dr. J. Middlemass Hunt, being in the chair.—Mr. Lennox Browne showed a case of Laryngeal Epithelioma of at least two and a half years' duration which had not been submitted to operation. The patient was a man, aged 63 years. His principal symptom was loss of voice which had occurred suddenly about four and a half years ago and had persisted. On laryngoscopic examination the left vocal cord could not be seen, but the whole of the tissues on the left side were immoveable and presented the appearance of a large, irregular mass with heightened colour and warty surface. The right cord was involved but it moved freely. The laryngeal outskirts were much infiltrated. No glands could be detected externally, but a slight spreading outward of the left thyroid ring could be felt. There was no evidence of syphilis.—Dr. Macintyre (Glasgow) and the President were inclined to doubt the diagnosis.—Mr. Bark (Liverpool) read notes of a case of Cyst of the Laryngeal Ventricle.—Mr. Stoker read a paper on the Curative Treatment of Laryngeal Phthisis. Starting with the belief that laryngeal phthisis was due to the presence of micro-organisms or the toxins they produced, he suggested that a culture should be taken from the affected part, an oxidised toxin made and applied frequently. He preferred the term "oxidised toxin" to "antitoxin," as he contended that the most potent factor in bringing about such a change was the process of oxidation. He described in detail his method of preparing the oxidised toxin.—Dr. Barclay Baron (Bristol) opened a discussion on the Value of General Treatment in Diseases of the Throat, Nose, and Ear. He reviewed the treatment of tuberculosis and more especially phthisis laryngea during the last few years and contrasted the striking difference in the general treatment adopted 25 years ago and that carried on at the present day. With regard to syphilis, he thought that larger medicinal doses should be given in the tertiary stages than appeared to be given in England. In the treatment of diphtheria he paid a tribute to the value of antitoxin. He thought the profession at large did not thoroughly realise that many cases of acute tonsillitis were rheumatic and yielded markedly to the salicylates.—The discussion was continued by Mr. Wyatt Wingrave, Dr. R. H. Woods (Dublin), the President, and others.

West Penwith Medical Society.—A meeting of this society was held at Penzance on Feb. 8th, Dr. J. B. Montgomery, the President, being in the chair.—It was decided to support the objects of a resolution passed by the Liverpool Medical Institution relative to the Vaccination Act (1898), of which a copy had been sent with a letter.—Mr. W. S. Bennett introduced a discussion on the Treatment of Abortion. In his opinion the treatment ought to be rapid dilatation of the os with the finger and removal of the uterine contents as far as possible without instruments.—Mr. A. T. Jago, Mr. C. S. Jago, Mr. Symons, and Mr. Palemon Best took part in the discussion.—Mr. John Symons described a case of Rupture of the Duodenum following a Blow on an Empty Stomach. There was no external bruising and no vomiting, but the patient's temperature rose to 104° F. Post mortem it was found that there were universal peritonitis with much adhesion of the intestinal coils and some partially digested food behind the liver.—Mr. Symons also described a series of cases of Fracture of the Skull.—Dr. Hugh M. Montgomerie related a case of Complete Recovery from Severe Chronic Dysentery in which rest, milk diet, and salicylate of bismuth were the principal treatment. He also showed a Gall-stone removed from the sister of the patient who suffered from dysentery and described a case of Choroido-Retinitis occurring in a man who had two brothers also partially blind and another one with lateral sclerosis of the spinal cord.—The honorary secretary, Mr. Evershed, resigned his office owing to departure from the town and Mr. R. D. Boase was elected temporarily in his stead.

South-West London Medical Society.—A meeting of this society was held at Lavender-hill, S.W., on Feb. 8th, Dr. Duke being in the chair.—Dr. Arkle read a paper on Some Points in the Treatment of Tuberculosis. He said that specific there was none, but probably of all remedies the "open-air" method of treatment was the most popular and the most successful. He now felt more certain than he did some years ago that the method can be worked well in the British Isles. The preparation and "hardening" of the patient was a *sine quâ non*, for tuberculous patients were generally "hot-house plants" and required to be taught to be more Spartan in their mode of life. Then they could live in the open air, for their bedroom windows would be widely open at night, and they would spend their days out of doors. Attention was called to this preparation as carried out at Falkenstein and other Continental sanatoria, especially the method of daily sponging the body, at first with pure spirit, then diluted more and more till cold water only was used. Various methods of relieving symptoms and of improving the nutrition were mentioned. In conclusion Dr. Arkle urged that the early and oft-repeated examination of the sputa was a most important element in treatment as it was in diagnosis, for the disease was generally considerably in advance of the ordinary physical signs.—A discussion followed in which Dr. Duke, Dr. Mackintosh, Mr. Ryan, Major Mark Robinson, I M.S., Dr. Barkwell, Mr. Gay, and Mr. J. B. Howell took part.

Plaistow and Canning Town Medical Society.—A meeting of this society was held on Feb. 9th at The Hall, Balaam-street, Mr. Buksh being in the chair, to hear an address by Dr. Biernacki on the Systematic Treatment of the Commoner Fevers.—The speaker, dealing with the severe types of these diseases, pointed out that the general morbid condition was induced by poisonous substances circulating in the blood. He then traced the genesis of these poisons, specific and non specific, in order to elicit rational methods of retarding their formation In the latter part of his address these methods were reviewed and stress was laid on the fact that if employed consistently from the outset they had a considerable influence in diminishing the toxic elements in the blood The neutralisation of the specific poisons by means of antitoxin was also touched upon, Finally, a point was made of the great importance of maintaining excretion Dr Biernacki throughout his address deprecated a too great reliance upon treatment by drugs alone, and threw doubt on the efficacy of many drugs commonly used Those having a prejudicial effect on excretion were condemned, and in this regard the danger of the exhibition of digitalis in heart failure associated with febrile oliguria received special attention A general discussion followed in which the particulars of several cases were adduced and the meeting closed with a hearty vote of thanks to Dr Biernacki

BRISTOL MEDICO CHIRURGICAL SOCIETY. — The fifth meeting of the session of this society was held in the medical library of University College, Bristol on Feb 8th, Dr Roxburgh being in the chair —Dr F H Edgeworth showed a specimen of Abscess of the Brain —Dr J O Symes read a paper on the Bacteriology of some Suppurations Complicating Pulmonary Disease —Dr Michell Clarke Dr Cave, Dr James Swain, Mr R Williams, and Dr Elliott discussed the paper —Dr Michell Clarke read a paper on Some Cases of Apoplexy illustrated by lantern slides showing numerous temperature charts —Mr. T Carwardine showed microscopic and lantern slides illustrating Paget's Disease — Mr R Williams spoke on the subject —Mr W H Harsant read notes on a case of Actinomycosis and illustrated his paper with microscopic and lantern slides —Dr Waldo made some remarks on the treatment of the disease —Professor Edward Fawcett showed a large number of lantern slides of sections of the Cord, Medulla, and Mid brain stained by a modification of the Pal Weigert method

Reviews and Notices of Books.

Sanatoria for Consumptives in Various Parts of the World. By F RUFENACHT WALTERS M D, M R C P Lond, Physician to the North London Hospital for Consumption and Diseases of the Chest London Swan Sonnenschein and Co 1899 Pp 374 Price 10*s* 6*d*

THE publication of this book is certainly opportune, appearing at a time when interest is so actively taken in the nature and treatment of pulmonary tuberculosis In order to give our readers an idea of the full scope of the work we may quote the title-page in full "Sanatoria for Consumptives in Various Parts of the World (France, Germany, Norway, Russia, Switzerland the United States, and the British Possessions), a Critical and Detailed Description, together with an Exposition of the Open air or Hygienic Treatment of Phthisis, with an Introduction by Sir Richard Douglas Powell, Bart, M D F R C P ' It is obvious therefore that Dr. Walters set himself a very difficult task and he has accomplished it in a most praiseworthy manner

In the first chapter the author describes what he means by "Sanatoria for Consumptives He defines them as "establishments for the open air treatment of presumably curable cases of consumption under medical direction, mainly by hygienic and educational measures They are not intended for patients whose prospects of recovery are small, nor are they intended for non tuberculous cases or for those who are merely out of health We consider this definition a good and full one It might be recommended with advantage to the managing boards of the special hospitals for diseases of the chest in this country Admission to most of these can be obtained by subscribers' letters only, and whilst indeed the in patients are all suffering from some form of chest disease yet quite half the out-patients have nothing at all the matter with the respiratory organs and yet use the "letters' which might with much more advantage be given to patients who are the subjects of consumption or of some other chest trouble

Climates suitable for consumptives are next described and Dr Ransome's words are naturally quoted. "There are many places in this country where on a dry soil and in a sunny sheltered part on the southern slope of some upland most of the conditions can be obtained which are now dearly bought and far sought and often not obtained in distant parts of the world' No doubt these words are to a great extent true although we doubt whether in the civilised world there is a much more unsuitable climate than England as a whole, and certainly Dr. Walters's dictum that the locality for the sanatorium must have "*a pure air, free from* dust and smoke and the impurities which are inseparable from a dense population," would at once exclude the "hygienic treatment" being attempted in the strictest sense in a large town Several chapters are devoted to the description of the requirements of a sanatorium, the most suitable site (stress being laid on the fact that the coast is by no means always the best), the extent and nature of the sanatorium grounds, the construction, decoration, and furniture of the buildings, the cleansing and disinfection of the linen and rooms, the reception and disinfection of the sputa, the disposal of the sewage, and the water supply Next we find described the atmospheric conditions required for the fresh air treatment, such as natural and artificial shelter, protection against hot sun, and against wind, rain, and dust Directions are also given as to the regulation of rest and exercise, and a full description of the diet used in modern sanatoria follows Chapters then *follow* in which will be *found a discussion* on sanatoria for the poorer classes and the way in which they should be conducted Dr Walters enters into considerable detail as regards the size, staff, and management, and also answers some of the objections which have been raised against such institutions, referring chiefly to the danger of infection He barely touches, however, upon another greater difficulty—namely, as to how far it is advisable to increase the number of charitable institutions already in existence, the funds for the maintenance of which can only be secured with the greatest difficulty

The main part of the book is devoted to a description of the sanatoria in all parts of the world already existing or in course of construction The author has evidently spared no pains in collecting the information and a most valuable guide to such institutions is the result, probably the best that has hitherto been written The work is consequently a valuable one to all practitioners, as by referring to it details will be found of all such sanatoria wheresoever situated In addition to the written description numerous illustrations and plans of the various resorts are given The means of approach are also given so that the medical adviser can give to his patient all the necessary knowledge before the latter leaves England For this part of the book we have nothing but praise and can confidently recommend it to our readers In the last chapters of the book an appeal is made for the construction of sanatoria for the less wealthy middle class consumptives and it is shown by statistics how far Germany is beyond us in this respect If the institutions could be made self supporting we should certainly have nothing to say against them We fully sympathise with the difficulties which such patients experience in securing the necessary medical treatment The very rich and the very poor can obtain what is required, but the class of persons to whom Dr Walters refers are often placed in a most unfortunate position

Sir Richard Douglas Powell in the preface lays stress on the part which the doctor should play in the management of cases of consumption in his private practice 'The family medical adviser and the health resort physician need, perhaps, more closely to supervise and regulate the conditions of life as regards exercise, rest, and diet, which as a part of the general treatment of the case are as important as the administration of remedies for particular symptoms. ...... Medical officers of health in this country have yet to acquire authority to do much more to regulate the sanitation of their districts with regard to consumption; and it is, I believe, through this means, in conjunction with better instructed advice given more uniformly by family medical practitioners to their clients, that the public will best learn the sanitary requirements necessary for that further diminution of the prevalence and mortality of the disease which medical science has already done so much to lessen." These remarks we cordially endorse.

Twentieth Century Practice, an International Encyclopædia of Modern Medical Science. Edited by THOMAS L. STEDMAN, M.D. New York. In 20 volumes. Vol. XII.: Mental Diseases, Children, and Old Age. London: Sampson Low, Marston, and Co. 1897. Pp. iv.-849.

THE volume commences with Mental Diseases (p. 254) by Dr. G. Fielding Blandford. The keynote is struck in the words, "we must keep ever before us the fact that disorder of the mind means disorder of the brain and that the latter is an organ liable to disease and disturbance like other organs of the body, to be investigated by the same methods and subject to the same laws"—an excellent enough principle if steadily kept in view and consistently carried out in practice. The author's long experience in lunacy and his position as Lecturer in Psychological Medicine at St. George's Hospital give sufficient guarantee of fair performance in the task of writing the chapters on the Basis, Clinical Forms, Pathology and Medico-Legal Aspects and Treatment of Lunacy, though the necessary restrictions of space operate in a measure disadvantageously to a really adequate performance of the work. Stating that insanity is a wide and comprehensive term and mainly one of convenience, he advises the use rather of the term "the insanities" in speaking of the large and varied hosts of mental diseases, in conformity with what is doubtless increasing usage. The chapter on Cerebral Anatomy and Histology gives expression to the more recent results obtained, the *résumé* on Cerebral Histology and on the Comparative Evolution of the Brain—from the reptilian to the mammalian and human level—being mainly based on the work of Andriezen. The "insane diathesis" is briefly and well put, and concerning the insanities of puberty the author wisely says, "If we were to collect all the cases of insanity of puberty which are treated out of asylums and pass as cases of hysteria and the like we should greatly swell the number." The chapter on Homicide is practically excellent. It is unfortunate that "paranoia" is not accepted by the author, while "monomania" is retained as a term and has included under it not only *primary* cases but those *secondary* to antecedent (severe) attacks of mania, melancholia, &c., which is *rather inconsequent and confusing.* While some five monomanias—of pride, jealousy, hoarding, persecution, and doubt—are given there is no recognition of the clinical separateness and unity of Magnan's "délire chronique à évolution systématique"—a notable omission. As would be expected the subject of the Early Mental and Moral Changes of General Paralysis of the Insane—that most fatal of the insanities—is well described and its practical and medico-legal bearings are indicated. On the longevity of some insane patients the author has interesting remarks to make (p. 199). The chapter on the Prevention of Insanity is one of the best and should be perused by every practitioner and sociologist (the author had already given public utterances on this subject at the annual meeting of the British Medical Association at Bristol in 1895). A short and concise chapter on the Insane and the Law concludes what is on the whole an interesting and readable production.

Dr. Paul Sollier follows with a short monograph on Idiocy (110 pages). He accepts the classification of Bourneville—a pathological one—into eight varieties as, on the whole, the best—viz., into hydrocephalic, microcephalic, agenetic, malformative, hypertrophic-sclerotic, atrophic-sclerotic, meningetic, and myxœdematous (cretinoid). Then follow concise accounts of etiology (due stress being laid on alcoholism and on neurotic heredity as predominating ancestral conditions and causes of the disease); pathological appearances, mainly macroscopic; and the physical appearances and "stigmata"—the hebetudinous aspect, the conditions of the nose, ears, eyelids, palate and teeth (this part but meagrely), the jaws, and genital anomalies generally being briefly described. Sufficient data and statistics are not given, considering the importance of the subject. The author's forte is undoubtedly the psychology of the idiot mind, and he has given here in the compass of 60 pages what is undoubtedly an important contribution of real scientific value. A few pages are devoted finally to diagnosis, duration, and treatment, including the education and training of the idiot and the imbecile.

Professor Lombroso's contributions to criminology are already too well known to require any detailed description of his contribution on Criminal Anthropology (50 pages). This is mainly a *résumé* of more recent work (that of the past decade) initiated by Lombroso, Benedikt, and others, and carried out by a host of other workers. Lombroso recognises the following types or species of criminals: (*a*) the epileptic criminal; (*b*) the congenital; (*c*) the criminal by passion; (*d*) the accidental criminal—who, it need scarcely be said, is not of one blood with the first two types or with the next; and (*e*) the insane criminal. The accidental criminal, however, may from repetition become a chronic and habituated one. The geographical distribution of crime, and such topics as heredity, social abuses, and other conditions conducive to the development of crime are touched upon in Lombroso's well-known way. For a work of such small scope the statistical data are ample and even too abundant.

The psychology and pathology of old age have yet to be written. Dr. Boy-Teissier of Marseilles makes a praiseworthy attempt in this direction. He avails himself of the works of many predecessors—Cruveilhier and Charcot in France, Canstatt in Germany, and Day in England. The decay and failures of old age are morphologically considered as related to (1) pure atrophy of tissue elements of the body; (2) infiltration or degeneration—fatty, albuminous, calcareous—of organs; and (3) exaggerated production of connective tissue (arterio-capillary and other fibroses). Hygienic measures to preserve a "green old age unconscious of decay" are indicated. Some of the common ailments and troubles of old age are referred to, but the subject of psychological decadence is not adequately dealt with, this being the weakest part of the production.

The Diseases of Children by Dr. Comby of Paris conclude the volume. These refer to general nutritive disorders (exclusive of rickets, already dealt with in Volume II.) and local or regional diseases of the alimentary canal, respiratory organs, &c. The author recognises and delineates a scrofulous diathesis and an arthritic, including in this latter tendencies to such diseases as migraine, asthma, coryza, pharyngitis, &c., combined with an undue irritability of the child's nervous system. Dr. Comby certainly makes a good case for this classification. The concluding chapters relate to cutaneous affections of childhood, viz.—congenital anomalies (well described), the erythemas, affections of the sebaceous and sweat glands, pemphigus, the exfoliative, vesicular, and other dermatites, the keratoses, and affections due to vegetable (fungoid) and animal parasites of the skin. The nervous diseases of children are dealt with in what is on the whole a concise and useful summary and an excellent bibliography is appended. A general index of 17 pages concludes this work, the usefulness of which is apparent, though the various parts are of unequal merit.

An American Text-book of the Diseases of Children. Edited by LOUIS STARR, M.D., late Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; assisted by THOMPSON S. WESTCOTT, Instructor in Diseases of Children, University of Pennsylvania. Second edition, revised, two vols. Numerous Illustrations and several Coloured Plates. London: Rebman Publishing Co., Limited. 1898. Pp. 1230. Price 42*s.*

THE fact that this encyclopædic work has already reached its second edition shows that its many excellent points have been appreciated by the medical public. As we pointed out in reviewing the first edition the book is very unequal in quality. Most of the articles are written with undoubted authority by those who have special experience, but in some the various forms of disease are described as they occur in the adult, thus covering ground which has been better dealt with elsewhere. Again, while syringomyelia and other affections rarely presenting themselves for observation during childhood are described in detail there are diseases met with in characteristic forms in early life, such as the osteo-arthritis of children, which have been omitted altogether. But with this not unimportant reservation we can heartily recommend the book, many of the articles being of the first order, particularly that by the Editor on the Clinical Examination and Management of Sick Children, that on Modified Milk by Dr. Westcott, that on Tuberculosis by Dr. Osler, those on Tuberculous Meningitis and other Nervous Diseases by Dr. Hendrie Lloyd, and the admirable practical sections on Tracheotomy and Intubation by Dr. Henry Wharton. The index is very complete, and the book is well printed and strongly bound.

LIBRARY TABLE.

The Century Invalid Cookery Book. By MARY A. BOLAND Edited by Mrs. HUMPHREY. London: T. Fisher Unwin. 1898. Price 3*s.* 6*d.*—It must be acknowledged that for invalids in particular good cookery is of the greatest importance since all food as nourishment to repair the waste of the tissues of the body may be spoiled by improper cooking. Further, bad cooking may also render otherwise good food unattractive to the invalid. To win the interest of her readers the author of this book devotes the first part of it to explanatory lessons which include general remarks upon chemical composition, applying this information to practical purpose. A full knowledge of the processes and changes in the composition of food by heat emphasises the necessity for careful attention in its preparation. The perfection of cooking is reached when the nourishment in the food is thereby made most easily available by the digestive processes. Too much stress can hardly be laid upon the want of pure air as an adjunct to good food and as an essential of health, a point which is well emphasised. The second part consists mainly of recipes which are clearly written and which should easily be followed by novices in the culinary art. Suggestions for the tasty serving of food and a chapter devoted to the feeding of children with directions for the sterilisation and preservation of milk are valuable additions to the book. It is written principally for the use of nurses and all who tend the sick, but it should be useful to a larger class and in fact to all those who would possess a knowledge of the principles underlying the advantages of well-chosen and well-cooked food. Air and food-supply are responsible for the maintenance of strength and both factors are especially indicated under the best possible conditions for those who hope to overcome the weakness following disease. The elementary scientific facts are correctly stated, but there is a curious mixture of nomenclature in the book; sometimes it is American and sometimes English. Frequently, again, the word "symbol" is used when "formula" is meant.

Merck's Digest. London Office, 16, Jewry-street.—We have received the first number of this periodical which is devoted to the publication of reports on clinical experiments made with the preparations elaborated by this enterprising firm. The present number deals with the glycerino-phosphates and contains the chemistry of this interesting series of nerve nutrients and stimulants with clinical results. The periodical will be forwarded to medical men gratis on application.

JOURNALS.

The Quarterly Journal of Microscopical Science. Edited by E. RAY LANKESTER, F.R.S., ADAM SEDGWICK, F.R.S., and W. F. R. WELDON, F.R.S. New Series, No. 164, Vol. XLI., Part 4. January, 1899. London: J. & A. Churchill. Price 10*s.*—This part contains the following articles. 1. On Differences in the Histological Structure of Teeth occurring within a Single Family, the Gadidæ, by Charles S. Tomes, M.A., F.R.S. Mr. Tomes shows that true dentinal tubes are not found in this very well-marked and natural group of fishes, but that they present typical vaso-dentine, which consists of a matrix permeated by a rich plexus of blood-carrying channels. These channels proceed from large axial pulp cavities. In merlucius, molva, brosmius, lota, and probably uraleptus, the vascular canals are highly developed, the outer non-vascular portion being sharply marked off by the bounding canal. In raniceps gadus and motella the vascular canals, abundant in gadus morrhua, become less frequent in the other species but always retain rounded external loops; in phycis, perhaps in uraleptus and lotella, the vascular loops are greatly reduced in number, and, indeed, in lotella they are entirely absent. Incidentally, Mr. Tomes thinks that his observations tell against the doctrine of kinetogenesis, which is to the effect that the form of a tooth is the direct consequence of the direction of stimulation which it has received by use in successive generations, for he finds that the gillrakers of the hake which are subject to the minimum of use are an exact copy of the teeth round the margins of the mouth. 2. A Description of Two New Species of Spongilla from Lake Tanganyika, by Richard Evans, B.A. These sponges were collected by Mr. J. E. S. Moore, and were taken from a depth of 350 fathoms. The sponges examined, named respectively Spongilla Moorei and Spongilla Tanganyika, grow on shells, are lobulated and somewhat woolly in aspect, an *osculum* of about one-eighth of an inch in diameter is situated at the tip of each of the lobes, and the dermal pores are small and are situated on the flanks of the lobes and on the intermediate depressions. Some of the spicules are diactinal monaxons, tapering to a sharp point at the two ends and without swellings on the shaft, others are similarly formed but have swellings, and others are formed by the fusion of these forms. The general arrangement of the skeleton is reticulate. All the skeletal fibres of the Spongilla Moorei are enclosed in a distinct sheath of spongin. The gemmules are spherical and small. In the Spongilla Tanganyika the spicula present megascleres and microscleres and these are thickly covered with small spines. The spongin is not so highly developed as in the Spongilla Moorei. It presents a certain degree of affinity with the species of the Spongillinæ on the one hand and of the Lubomirskinæ on the other. 3. On Tetracotyle Petromyzontis, a Parasite of the Brain of Ammocœtes, by Albert W. Brown, B.A. Careful examination of this remarkable specimen demonstrated that it was a holostomid trematode. It presents a remarkable similarity in appearance to the diplostomum volveus. It appears to be almost constantly present in the brain cavities of Ammocœtes, as Mr. Brown only noted its absence in one case after examining many. The parasites are found mostly in the region of the fourth ventricle and have not been observed by Mr. Brown in the adult lamprey. He thinks that they may reach the brain through the blood-vessels, but their position is difficult to explain. Their presence does not seem to incommode their host. Mr. Brown gives drawings of the animal and of the structure of its parts. 4. Studies on the Structure and Formation of the Calcareous Skeleton of the Anthozoa, by Gilbert C. Bourne, M.A., with four plates. This paper is to a considerable extent a criticism of Mr. Gordon's views on the mode of formation of madreporia. 5. The Structure and Development of the Hairs of Monotremes and Marsupials, by Baldwin Spencer, M.A., Professor of Biology in the University of Melbourne, and Georgina Sweet, M.Sc., of Melbourne University, with three plates. The hairs of these groups, it appears, are arranged in bundles with a common follicular neck, the number of hairs thus collected into one group varying from four or five to 30. The shaft is always round a bundle of muscular fibres (unstriated in ornithorrhynchus but striated in echidna) is connected with each group of hairs. The authors describe eight stages of development from the first appearance of a solid downgrowth of the epidermis to the emergence of the hair. The lumen is found at quite a late period. There is no real distinction of the inner root sheath into Huxley's and Henle's layers. The development of the hairs is essentially similar to that of other mammals. The paper is illustrated by numerous well-executed drawings. 6. Trophoblast and Serosa, a contribution to the Morphology of the Embryonic Membranes of Insects, by Arthur Willey, D.Sc. Lond. In this article the author endeavours to trace the serosa back to a primitive trophoblast and the amniotic cavity back to a primitive ventral flexure.

Annales de Gynécologie et d'Obstétrique. January, 1899. Paris: G. Steinheil.—This number contains the following papers. On the Indications for the Induction of Abortion, by Professor Pinard, in which the conclusions arrived at are that neither cases of contraction of the pelvis nor cases of disease complicating pregnancy are indications for this operation and that the only real indication at the present day is when the cause of the danger menacing the mother's life is certainly the pregnancy. The Treatment of Chronic Metritis by Injection of Chloride of Zinc, by Dr. Pierre Delbet. On the Slowing of the Pulse during the Puerperium, by Dr. H. Varnier. On Vaginal Hysteropexy, by Professor Dührssen. Anomalies of the Genital Organs, by Dr. P. Delagénière. The number also includes a review of Russian medical periodicals and the usual quarterly bibliographical index.

Annales de l'Institut Pasteur. Tome xiii. No. 1, January, 1899. Paris: Masson et Cie.—This number contains the following articles: (1) Récherches expérimentales sur les Maladies des Plantes, by M. *Emile Laurent*; (2) Etude sur l'Immunité vis-à-vis des Composés Arsenicaux, by Dr. Beschredka; (3) Action du B. Coli et du Bacille d'Eberth sur les Nitrates, by M. L. Grimbert; (4) A Critical Review by the Editor (M. Duclaux) of a paper by Schottelius "On the Important Rôle Played in the Intestine by Bacteria." Of these the most important is that by M. Laurent on bacterial diseases among plants, giving a fascinating account of researches which not only promise to be of great value to the agriculturist but which have a most important bearing on the occurrence of diseases in epidemic form. The paper is too long to be quoted at length, but it may be mentioned that a piece of ground was taken and divided into plots, each of which was treated with a different manure. M. Laurent found that while healthy living potatoes resisted the bacterium coli those grown in soil containing an excess of chalk had their resistance weakened, so that colonies readily formed on cut surfaces of the potato while those grown in a soil without an excess of alkali continued to resist. Further, he found that by growing on this feebly-resisting potato the virulence of the organism was greatly increased, so that after being once cultivated on the potato it would at once attack the stronger tubers when inoculated and thus might give rise to an epidemic. With other organisms the tubers grown in the alkaline soil resisted best and the addition of chalk to the soil would lead to the arrest of the spread of disease from one potato to another in the same patch. In connexion with some half-dozen well-known organisms which attack higher plants it was found that modifications of the soil would so alter the resisting power of the plants that they escaped infection or recovered if infected. It seems probable that further study of "vegetable therapeutics" on these lines may give some important hints which will aid the physician in controlling disease in man.

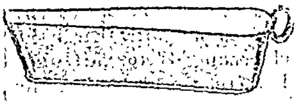
Public Health.—This, the journal of the Incorporated Society of Medical Officers of Health, contains in its February number some interesting papers. First, there is Dr. Newsholme's paper upon the Prevention of Phthisis, an abstract of which appeared in our issue of Feb. 4th. Then there is an article by Dr. John Robinson upon Slop Closets which he considers should not be used in crowded towns. Dr. William Butler publishes a paper, originally read before the Home Counties Branch of the Incorporated Society of Medical Officers of Health, upon the Value from a Public Health Standpoint of the Declining Phthisical Death-rate. Dr. Butler concludes that it is not of much service to the community to reduce the death-rate from phthisis unless some restrictions are put upon the procreation of the degenerate. He says, "A healthy people pruned of its decadents by a high mortality among its children is better than a degenerate race weakened by the survival of its effete progeny."

New Inventions.

ASEPTIC CATHETER TRAY.

THE accompanying illustration represents a tray which has been thoroughly well made in white enamelled metal at my suggestion by Messrs. Reynolds and Branson, Limited, of Leeds. The original design was carried out for me some 12 years ago by a local tinsmith.

The trays are 10½ inches long by three inches deep and are three and a half inches wide behind but taper to two and a half inches in front. They are furnished with a handle and being coated with white enamel are easily sterilised by boiling. Placed between the thighs with the narrow end pressed against the perineum they will be found most useful when drawing off urine in either sex or while washing out the bladder; during the radical treatment of hernia, varicocele, or hydrocele, and during operations on the lower abdomen they will prevent fluids getting down between the thighs. They are also suitable for operations on the breast or for empyema, the narrow end being pushed up into the axilla.



REGINALD H. LUCY, M.B. Edin., F.R.C.S. Eng.,
Surgeon to the South Devon and East Cornwall Hospital, Plymouth.

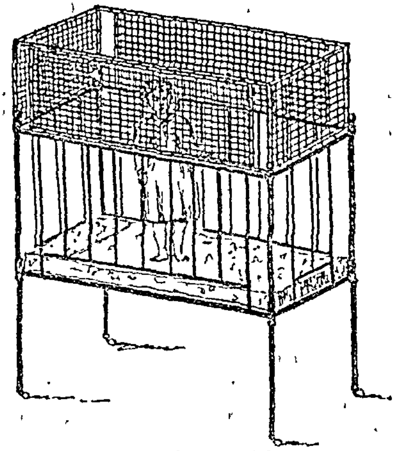
A NEW SYPHON-HEAD.

A VERY desirable improvement has been effected in the construction of the syphon head of aerated water-bottles by Messrs. Ellis and Son of Ruthin. It enables the charging of the bottle without removing the head while it allows of absolute cleansing of all the parts as well as of the bottle itself.

The spring valve, instead of being vertical, is horizontal, the spout being much in the same position as in the ordinary design. The valve in reality forms a sort of T piece, the handle being at one end while at the other is a screw-piece which may be easily detached either for charging or cleansing. For the former purpose the head is simply screwed on to the charging apparatus, but if during charging the valve be depressed water will be rapidly forced through the bottle and spout. This arrangement, further, adds to the convenience of using the syphon. The improvement is an important one since its adoption guarantees freedom from dirt and other impurities in the water contained in the syphon.

THE "HAPPY THOUGHT" COT PROTECTOR.

To prevent falls from the cot which are a frequent cause of injury to children just beginning to walk and to climb about is the object of an invention by one of my patients. It consists of a light frame of bamboo and netting which can be easily fixed to the cot and removed at pleasure. The child is thus prevented from falling out of bed, and can play about freely if awake and restless while the mother or nurse is still asleep The frame can be folded up into a small space when not required. I am informed that the frame costs from 12*s*. 9*d*. to 14*s*. 9*d*. and that it may be obtained from Messrs. Maple and Co. and Messrs. Shoolbred and Co. in London, Messrs. Pim Brothers in Dublin, and others of the chief furniture makers.



Clifton. GEORGE PARKER, M.D. Cantab.

THE VALLEY OF THE THAMES AND THE THAMES CONSERVANCY BOARD.

ON Feb. 13th a deputation, introduced by Viscount Valentia, M.P., and consisting of representatives of district councils in the counties of Berkshire, Buckinghamshire, Hertfordshire, Gloucestershire, Oxfordshire, Surrey, and Wiltshire, was received at the offices of the Thames Conservancy by Sir F. Dixon-Hartland, M.P., the Chairman, and by several other members of the Thames Conservancy Board.

Viscount **Valentia** said that the representative gentlemen whom he introduced were fully impressed with the great importance of preserving the Thames from contamination, but they thought that pollution of minor streams in their particular districts was not likely to affect the purity of the river because in their opinion water became purified by a natural process of filtration on its way to the Thames. They knew that the Thames Conservancy Board under the Act of 1894 had most stringent powers, but they feared that if these were enforced to the letter unnecessary expense would be caused in the districts which they represented.

Mr. **White**, Chairman of the Headington Rural District Council, said that the council which he represented had received notices with regard to streams three or four miles from the Thames from which he thought no possible pollution could be caused to the river. He complained that a field ditch which carried only the washings of a road was condemned and it led to a summons being issued against the Headington Rural District Council, and he suggested that this was unfair because at Magdalen Bridge at Oxford, near the Botanical Garden, a drain still discharged into the river.

Mr. **Harry Bevis**, clerk to the Cricklade Wootton Bassett Rural District Council, pleaded that the Conservators should exercise their powers in a lenient and broad spirit. He thought that the creation of a number of sewage farms along the Thames would be more prejudicial to the river than the present arrangements.

Sir F. **Dixon-Hartland**, M.P., in reply, began by pointing out that Lord Derby in reply to a criticism with regard to the barrenness of the session of 1866 had said that if they had secured, as he believed they had, the purification of their great national river their labours would not have been in vain. The Act of 1866 had been amplified and extended by the Acts of 1870, 1878, and 1894. The last Act, which was passed after a laborious report made by a Parliamentary Committee, left the Thames Conservators no option with regard to the duties which they had to perform. They had under their supervision no less than 100 district councils. Since the year 1896 only 18 convictions had taken place. Of these six occurred in the counties of Hertfordshire, Berkshire, and Buckinghamshire, and 12 in Surrey, Hampshire, and Middlesex. In addition to these cases 15 summonses had been issued, of which 10 had been adjourned and five withdrawn. During this period 10 convictions against private individuals had also been obtained. The fact that so little litigation had taken place showed that the Conservators had acted with great forbearance. Their duty was to see that neither the river nor its effluents were polluted. The Conservators had never insisted on any particular system of sewage. They had always allowed districts to decide for themselves what system it was best to carry out and local authorities had complete liberty of action in that respect. The members of the deputation should also bear in mind that in all cases the convictions which had been made were by local magistrates and that no conviction could possibly take place unless there were a real breach of the law. With regard to the delegates who had addressed the Conservators the Chairman pointed out that in the case of Oxford the sewage effluent farm had gradually improved and as soon as they had discovered pollution to exist in the city they had immediately taken steps to stop it. Headington, from which a member of the deputation had come, was one of the worst offenders. It was, indeed, the only place on the Thames where nothing whatever had been done to carry out the requirements of the Conservators. They had been most patient and had finally adjourned an imminent prosecution to March 4th next in order to give them a last chance. Reports with regard to the sewage effluents at Headington had been uniformly bad. It had been suggested that the Conservators should give a few days' notice of the time at which their inspector would visit rural districts They had no objection to giving notice on the morning of the day on which their representative made his visit, but the Conservators did not think it wise to give a few days' notice in order that preparations might be made for his reception. The Chairman said that he had been very glad to see the deputation. Some years ago they had received one which was introduced by the Earl of Jersey and the members of that deputation, he believed, had returned satisfied with their interview with the Conservators. He was glad to say that since the year 1894 the purity of the Thames was improved by one-third. In no less than 362 places pollutions had been diverted. The district over which they had sway contained a population of 500,000 people, the work which they had to carry out was of the greatest importance, their duties were strictly laid down, and they had always been as considerate as they could having regard to their responsibilities.

At the conclusion of Sir F. Dixon-Hartland's speech Lord **Valentia** thanked the Chairman and the Board for granting the interview.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 18, 1899.

THE Parliamentary Bills Committee of the British Medical Association has had under its consideration a Midwives Bill sent up by the Medical Acts Amendment Sub-committee. The Sub-committee had taken the Bill of the Midwives Institute, as amended to meet the views of the General Medical Council, as a basis of discussion and had subjected it to a pretty close criticism. The report of the Sub committee accepted the fact that some such Bill is likely sooner or later to be passed by Parliament and suggested such amendments in it as would still further tend to secure the objects which the General Medical Council had in view, and must keep in view, in consenting reluctantly to any legislation of this kind. There was, indeed, an attempt by Mr. GEORGE BROWN, notwithstanding his general assent to the views of the Council, to throw the whole thing overboard, as will be seen by the amendment which he proposed to the motion of Dr. WOODCOCK. Dr. WOODCOCK's motion, which was seconded by Mr. HORSLEY, was as follows:—

"That the Bill thus amended be adopted and referred to the Council for adoption as that form of legislation on this subject which alone includes adequate safeguards both for public health and for the interests of the medical profession."

Mr. BROWN's amendment was—

"That inasmuch as the great majority of general practitioners have repeatedly objected to the registration of midwives this committee recommend the Council to oppose the Bill."

Dr. WOODCOCK's motion was carried. There is a sense, of course, in which the whole profession is reluctant to agree to such legislation. It is pitiable to think that any woman in the dangers of childbirth should have any attendant who does not act with the full knowledge and sense of responsibility of a qualified and registered medical practitioner. But taking the world as it is, and is likely to be for many years to come, we cannot shut our eyes to the fact that in this country a large proportion of the wives of the poorer classes are attended in their confinements by an untaught, untrained, and unregulated class of midwives whose practice the State has not prohibited, and has no intention of prohibiting, save perhaps in the sense of regulating it and subordinating it to the supervision of the medical profession. Such restraint will be imposed by a Midwives Bill, if passed by Parliament, in full accordance with the principles laid down by the General Medical Council and amplified in the Bill adopted by the Parliamentary Bills Committee of the British Medical Association.

The amendments to the Midwives Bill of the Midwives Institute which have been suggested by the Medical Acts Amendment Sub-committee are numerous. Some of them will appear to the framers of the Midwives Bill to be superfluous and to aim at provisions already involved, if not expressed, in one or other of the sections of the Bill. They are well set forth, as are the reasons for them, in the temperate and able speech of Dr. WOODCOCK. The Sub-committee wished to make clear in almost the first clause of the Bill the essentially subordinate and limited function of the midwife by defining her as "a woman who undertakes for gain to attend cases of women during natural labour and the lying-in period under the rules, regulations, and medical control or supervision set forth in this Act." We approve of this fuller definition of the new midwife in the front of the Bill. There is a very proper clause forbidding the employment of any substitute who is not licensed. The clauses of the Bill of the Parliamentary Bills Committee denying all medical function to the midwife and all right to give medical certificates also specifically forbids her, under penalty of fine or imprisonment, to give a certificate of still birth. Objections to such a clause being inserted in a Bill not dealing directly with the registration of births and deaths have been raised but they are pedantic: clearly the opportunity of such a Bill as the present should be seized to stop a great evil and danger. The Sub-committee did not approve of the recognition of the certificate of the Obstetrical Society of London. They considered that it would be better to leave the matter entirely to the Midwives Board. Perhaps the most novel feature of the Bill is that dealing with the constitution of the Midwives Board. The Board is commendably smaller than in the previous Bill of the Parliamentary Bills Committee. It is to consist of only seven members—all registered medical practitioners. One is to be appointed by the Lord President of the Privy Council, the remaining six, not by the medical corporation and the Institute of Midwives, as in the Bill of the latter body, but by the General Medical Council. Moreover, they are to be resident or practising in the different divisions of England and Wales that they may the better represent localities. Under section 6 of the Bill, sub-section 6 provides that no member of the Board shall act as teacher, instructor, or examiner of midwives, and that no member of the Board shall take any part in any inquiry respecting the conduct of any midwife to whom he or she has acted as a teacher or instructor. The latter part of this sub-section seems not unreasonable, but the exclusion of every teacher of midwives from the Board might deprive the Board of some very useful help.

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[1] THE LANCET May 29th and June 5th and 12th 1897

THE LANCET.

LONDON: SATURDAY, FEBRUARY 18, 1899.

THE Parliamentary Bills Committee of the British Medical Association has had under its consideration a Midwives Bill sent up by the Medical Acts Amendment Sub-committee. The Sub-committee had taken the Bill of the Midwives Institute, as amended to meet the views of the General Medical Council, as a basis of discussion and had subjected it to a pretty close criticism. The report of the Sub-committee accepted the fact that some such Bill is likely sooner or later to be passed by Parliament, and suggested such amendments in it as would still further tend to secure the objects which the General Medical Council had in view, and must keep in view, in consenting reluctantly to any legislation of this kind. There was, indeed, an attempt by Mr. GEORGE BROWN, notwithstanding his general assent to the views of the Council, to throw the whole thing overboard, as will be seen by the amendment which he proposed to the motion of Dr. WOODCOCK. Dr. WOODCOCK'S motion, which was seconded by Mr. HORSLEY, was as follows:—

> "That the Bill thus amended be adopted and referred to the Council for adoption as that form of legislation on this subject which alone includes adequate safeguards both for public health and for the interests of the medical profession."

Mr. BROWN'S amendment was—

> "That inasmuch as the great majority of general practitioners have repeatedly objected to the registration of midwives this committee recommend the Council to oppose the Bill."

Dr. WOODCOCK'S motion was carried. There is a sense, of course, in which the whole profession is reluctant to agree to such legislation. It is pitiable to think that any woman in the dangers of childbirth should have any attendant who does not act with the full knowledge and sense of responsibility of a qualified and registered medical practitioner. But taking the world as it is, and is likely to be for many years to come, we *cannot* shut our eyes to the fact that in this country a large proportion of the wives of the poorer classes are attended in their confinements by an untaught, untrained, and unregulated class of midwives whose practice the State has not prohibited, and has no intention of prohibiting, save perhaps in the sense of regulating it and subordinating it to the supervision of the medical profession. Such restraint will be imposed by a Midwives Bill, if passed by Parliament, in full accordance with the principles laid down by the General Medical Council and amplified in the Bill adopted by the Parliamentary Bills Committee of the British Medical Association.

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[1] THE LANCET, May 29th and June 5th and 12th, 1897

WE chronicled briefly in THE LANCET of Jan. 28th the appointment of Sir WILLIAM MACGREGOR as Governor of Lagos, mentioning that he is an M.D. of Aberdeen University and that he at one time filled important medical appointments both in Scotland and in colonial dependencies. We do not know if our readers recognise that it is not a very unusual thing for medical men to attain to high position in the State and to serve their country efficaciously in diplomatic directions; we are certain that the general public is quite ignorant of the valuable political work which has been and is being done by the medical profession.

British rule in India had its origin in certain concessions and trading monopolies granted by the Emperor of DELHI to one Dr. GABRIEL BROUGHTON, a surgeon of the East India Company's ship *Hopewell*. Out of the Emperor's complaisance toward a medical man sprang the Anglo-Indian Empire by processes which many historians have traced, and no historian more skilfully than Sir JOSEPH FAYRER in an address delivered at the first dinner of the Indian Medical Staff some two years ago. How far the empire in more recent times has drawn largely upon the services of medical men we have no need in these columns to proclaim. The work of such men as Sir JOSEPH FAYRER himself, of MACNEIL, HAMILTON, and FALCONER — to mention only the first names which occur to the recollection —has been most powerful for the consolidation of our imperial interests as well as most active for the betterment of the subject people, while every member of the Indian Medical Service feels that he has a double duty to perform—that of a medical man and that of a pioneer of British rule. Similarly English medical men have played an important part in the establishment of diplomatic and commercial relations between their country and Russia. The foundation of the Russian Company and the consequent development of trade between London and Moscow were largely due to sympathetic feelings inspired in the Muscovite Court by two English body-physicians to the reigning sovereigns—MARK RIDLEY and ROBERT JACOB, as has been told at some length in our columns.[1] In more recent times Sir RUTHERFORD ALCOCK, Sir JOHN KIRK, and Dr. JAMESON have worked in an analogous manner. Sir RUTHERFORD ALCOCK, who died but recently, left the Army Medical Service for diplomatic employ about 50 years ago and became successively British Consul at Canton, Minister Plenipotentiary to the Japanese Court, and finally Superintendent of Chinese Trade. It is the result of his work under the last title which has incited other nations to their recent action in China, for they saw what good might accrue to them from well-regulated traffic with the Celestials. Sir JOHN KIRK, who has now retired, was medical officer to LIVINGSTONE'S expedition to Eastern Africa and became Political Resident at Zanzibar and finally Commissioner at the Niger Coast. Dr. JAMESON'S success as civil administrator of Rhodesia has been clouded by his military invasion of the Transvaal, but the value of his political services has been and may yet again be very real.

There recently died at Alexandria Sir JAMES MACKIE who played a very prominent part in Egyptian affairs and who in a marked manner showed that the good diplomatist is born and is not necessarily made in Downing-street. His career forms another example of the valuable political work which may be done by the medical man. Sir JAMES MACKIE went to Egypt in 1861 as a very young man and was seen by the English residents to be made of sturdy stuff. He was appointed surgeon to the British Consulate before he was 30 years of age, and 10 years later he became sole British Delegate to the Board of Health, a board regulating under a complicated system of international control all Egyptian arrangements with regard to maritime sanitation and quarantine. It need hardly be said that his political position was a delicate one when we remember that the right of England to be in Egypt at all is seriously disputed by some English statesmen (and during MACKIE'S lifetime was disputed by many more), is strenuously denied by France, and is not very vigorously supported by the Egyptians themselves or by their over-lord, the Sultan of TURKEY. MACKIE'S work, however, was good; he was so ready to incur all responsibility for his views and to expend endless time in proving their soundness that his presence on the Board soon became welcome to all parties, and his success there proved a splendid argument in favour of English interference in Egyptian affairs. Instances might be multiplied, and we are aware that many names have been omitted that might well have been included, but enough has been said to show that the medical profession has furnished to the empire many valuable political agents—to give them the baldest description to which their services entitle them.

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[1] The Twelfth International Medical Congress: Medicine, Past and Present in Russia, THE LANCET, August 7th, 1897.

Annotations.

"Ne quid nimis."

THE GOVERNMENT AND VACCINATION

ON Feb 10th Mr Balfour said in the House of Commons that it was not the intention of the Government to bring in any vaccination legislation in the course of the present session To our mind this comes perilously near the breaking of a pledge and we think that the action or neglect of action may cost the Government dear It was generally understood that the Government would bring in a Revaccination Bill at an early date if the Bill of last session was allowed to become law *Undoubtedly many opponents of* the present Act were persuaded to hold their hands by what they construed to be a definite promise of some measure of revaccination and we shall have no sympathy with Lord Salisbury s Administration if the just chagrin of such legislators should be visited upon it

THE PERIODICAL EXAMINATION OF SCHOOL CHILDREN FOR DIPHTHERIA AND OTHER INFECTIOUS DISEASES

A THOROUGH and interesting report has recently been issued by Mr J D Windle, the medical officer of health of the Southall Norwood Urban District on the prevalence of diphtheria in that place The several factors which may be operative in the spread of diphtheria were all carefully examined by Mr Windle and after weighing the evidence he concludes that the spread and continued prevalence of the disease were mainly due to the co mingling of infected and non infected children at the public schools His reasons in support of this conclusion are—(1) the cases were almost entirely confined to households of persons the children of whom attended the public schools, (2) in a large proportion of the invaded houses the first individual attacked was attending one of the suspected schools, (3) adults and children below school age were found to be proportionately rarely affected in the first instance and when such cases occurred it was common to get a history of previous throat illness of school attendants in the same family; (4) children *living* in better class houses and not *attending* the elementary schools showed a remarkable exemption from attack The inmates of the St Marylebone Schools with a population of about 400 susceptible children escaped entirely Acting upon this view of the outbreak the schools were closed and we are told that with their closure the notifications declined and that upon their re opening the cases again increased This sequence of events occurred on each occasion on which the schools were closed and re opened Subsequently the children in the schools were examined and some highly interesting results were obtained —results which differed very materially in the schools situated on the north side of the district from those on the south side In the infants school on the north side out of 128 scholars aged from three to seven years who were examined no less than 40 per cent were found to present enlarged tonsils and other unhealthy conditions of the throat while a large proportion had nasal discharge In the mixed school also on the north side, out of 222 children examined of from seven to 14 years of age 29 per cent had enlarged tonsils and other morbid conditions of the throat In the four schools on the south side the percentages of unhealthy throats ranged from five to 13 only This marked disproportion of unhealthy throats amongst the scholars of the schools on the north side Mr Windle attributes to antecedent throat illness from previous scarlet fever or diphtheria amongst the scholars After this the north side schools were closed, thoroughly cleansed, and disinfected and the cases of notified diphtheria dropped from 10 to zero, but increased again on re opening On closure for the Christmas holidays another fall occurred *followed by another rise on reopening Further closure* was, however, objected to by the school authorities and, as an alternative examination of the absentees was made with the view of, as far as possible, controlling the spread of the disease A conference with the school board was however, eventually arranged and it was decided that a bi weekly examination of all the scholars' throats (some 1300) should be made by Mr Windle and another medical man It was found that an examination of the throat of the hands and neck for desquamation and of the nose and ear for discharge could easily be carried out Every child with even a slight sore throat was excluded from school and swabbings of the throat were obtained in all cases in which diphtheria was suspected Mr Windle states that it is impossible to speak too highly of the benefits of this systematic examination, and he thinks that its great value lay in the discovery of unreported cases the presence of which is the chief factor in disseminating *disease through the medium of schools* Such examination however, should be continued in non epidemic times and especially on the reassembling of the scholars He regards the absence of objective signs as one of the reasons why diphtheria is perhaps more prone to spread through the agency of schools than are easily recognisable diseases such as scarlet fever, measles, and whooping cough We congratulate Mr Windle upon his report and we are pleased to see that the sanitary authority and the school board have been able to work together harmoniously

LYING-IN CHARITIES AND THE MEDICAL PROFESSION IN HULL

THE medical profession has always been friendly and considerate towards lying in charities Men like Dr Robert Barnes have given their time and influence to them both as patrons and physicians, and busy practitioners in London and the provinces have accepted office in them and been at the beck and call of the midwives whenever they had a difficult case If this amicable relation is to continue there will have to be more scruple on the part of the maternity charities than has been shown lately on the part of the Lying in Charity of Hull Up to 1895, according to the report of the East York and North Lincoln Branch of the British Medical Association the relation to the medical profession was such as we have stated above There was one midwife and, excluding honorary officers there were two practitioners to whom she referred and *who cheerfully helped her when necessary This* worked well About 165 cases were attended annually and the charity was a proper charity confined to fit cases In 1895 "in order to reduce the expenses of the charity the committee determined to dispense with the services of medical practitioners Two certificated accoucheuses were engaged and three *pupils were allowed, living in the house* of the Hull Lying in Charity And—and, here comes the climax of error—private practice was allowed to the midwives till at the present moment they are said to be attending about 1000 cases a year We cannot believe that such a system has been entered on deliberately in the *name of a charity* But the sooner it is exposed and the more completely it is left to its own merits the better The profession in Hull are unanimous in its condemnation We say unanimous We must qualify that word There is said to be one practitioner who is 'covering the midwives who when they get into trouble send for him or hand their puerperal cases over to the Hull Dispensary This is "covering of a very objectionable character and we must hope that when the practitioner in question realises what he is enabling midwives to do in the way of private practice and to the injury of his fellow practitioners he will quickly withdraw from an untenable position. We may look, too, to the subscribers of the charity to see that their charity is not abused by enabling their midwives to carry on a private practice. We would even appeal to the midwives to ask whether it is in their interest at this particular moment to give such an object-lesson to the public of the abuse to which they are ready to put their certificates by converting a charity into a private practice and expelling the profession from its proper position by which alone the safe and efficient practice of midwifery can be controlled. The protest of the profession in Hull is very strong, all the more so for its extreme moderation and friendliness towards the charity. There should not be one dissentient in this protest.

THE FOUNDER OF THE LANCET.

THE occasion of the issue of a cheaper edition of "The Life and Times of Thomas Wakley" has been used by the *British Medical Journal* to review Dr. Sprigge's book at length. The favourable estimate which the reviewer has been able to give cannot fail to be of great service to the book; while we, both as editors of the journal in the columns of which the work first appeared and as son and grandson respectively of the subject of the biography, desire to testify our very cordial appreciation of the terms in which the Founder of THE LANCET is described by the *British Medical Journal*. The review has been read by us with the greatest pleasure. The *British Medical Journal* reproduces in a clever wood engraving an unfinished and speaking portrait of the late Thomas Wakley which by a curious chance came into our hands while the biography was appearing as a serial in our columns. This sketch in oils is unsigned but it is evidently the work of a thoroughly good artist and the wood engraving in the *British Medical Journal* is a very successful reproduction of it.

THE CASE OF SURGEON-MAJOR H. G. GARDNER.

FROM a printed statement which has been circulated among the Members of the House of Commons we gather that Surgeon-Major H. G. Gardner, M.B., C.M. Edin., joined the Army Medical Service on Nov. 30th, 1874, and resigned his commission in October, 1890. Surgeon-Major Gardner states that while then serving in India he was refused 90 days' privilege leave to which he was entitled and which he urgently needed with a view to providing a home for his mother then 76 years of age, and that he consequently had no option but to resign; that his name appeared in the *London Gazette* of Dec. 23rd, 1890, as retired on gratuity, and was printed in the army list up to Oct. 1897 among those "liable to recall to service," and that this liability prevented his getting employment in the Egyptian Army, in the Chartered Companies, or at home. He alleges that in 1896 the late Director-General held out hopes of his being appointed to a recruiting district and possibly of his being reinstated in the service, which hopes were repeated in 1897 and confirmed by a letter of July 7th of that year by the present Director-General. Surgeon-Major Gardner states that no reason has been vouchsafed to him why he as an army medical officer should not have been employed in preference to a civilian at a time when the Army Medical Service was notoriously underhanded, especially as such employment would have been at £150 per annum, whereas in the case of civilians it is £270. Moreover, he points out that no other officers, naval or military, resigning on gratuity are liable to recall to service. Under Section 42 of the Army Act he submits that he is entitled to an inquiry into his case by the Secretary of State for War for submission to Her Majesty. Assuming the facts to be as stated we certainly think that some Member of the House of Commons might usefully introduce a question which would elicit further information from the War Office authorities on the subject.

MANNERS AND MEETINGS.

EVERYONE knows Colonel Newcome's favourite quotation, "Ingenuas didicisse fideliter artes Emollit mores, nec sinit esse feros." Unfortunately education does not always have this effect, as may well be seen by the reported accounts of a lamentable scene which occurred on Feb. 7th at a meeting of the Stockport centre of the St. John Ambulance Association. It is not seemly for members of one profession to make insinuations against members of another. From what we can gather from the report of the meeting in the *Stockport Advertiser* of Feb. 10th it was insinuated that the secretary was making a profit out of the Stockport branch of the Association, that the accounts were improperly kept, and that the secretary was not fit for his post. The meeting was apparently very disorderly and no definite conclusion was arrived at. It is, of course, always better to have matters of this kind threshed out, but a public meeting is not the best place for such inquiry. The proper way would have been to submit the question to the head offices of the St. John Ambulance Association in London.

THE OPERATIVE TREATMENT OF PERIGASTRITIS.

AT the meeting of the Société Médicale des Hôpitaux on Jan. 6th M. Merklen related the following case. A man, aged 40 years, who had had for three weeks crises of epigastric pain which radiated into the retro-sternal and even submaxillary regions, was on Nov. 10th, 1896, suddenly seized with acute pain in the left flank with all the signs of gastric perforation. Previous adhesion limited the peritonitis and a subphrenic gaseous abscess developed. He underwent operation on Dec. 2nd; nearly a litre of pus mixed with fœtid gas was evacuated and he seemed perfectly recovered. But in January, 1897, he commenced to suffer again. The pains were so great that he spoke of suicide if he was not relieved. They came on five minutes after taking any nourishment, even milk. They were increased by standing and walking. Their point of origin was the pit of the stomach and they radiated behind the sternum and into the arms to the little fingers, thus resembling angina pectoris. The duration of the attacks was from 30 to 45 minutes. After 14 months of suffering an operation was performed in March, 1898. The stomach was surrounded on all sides by adhesions which were divided, except the principal one which was very dense, of the size of a franc, and which fixed the lesser curvature of the stomach to the left lobe of the liver. The gastric wall was here thickened and indurated; this was the position of the ulcer. The patient appeared to be relieved, but pain gradually reappeared and the crises occurred again four weeks after the operation with the same localisation and the same radiation, but they differed from those preceding the operation in that they were not provoked by food and appeared solely when the patient was standing or walking; in short, gastric peristalsis was not painful, but the dragging on the gastro-hepatic cicatrix, inevitable in the standing posture, produced pain, especially after a meal when the weight of the stomach was increased by food. The patient knew well that to lie on his back was sufficient to bring the crises to an end. The causal lesion was otherwise easily ascertained, for there was a hard and painful epigastric induration of the size of a pigeon's egg. If it were not for the history cancer might have been thought of. Another operation was performed in June. The part of the liver adherent to the stomach (which was transformed into fibrous tissue) was removed with the thermo-cautery and the wound was closed with catgut sutures. The gastric ulcer was resected in the same way. Relief ensued. As to the diagnosis of perigastritis M. Merklen stated that persistence of pains in spite of treatment was an indication and induration in the gastric region a proof. The pains seemed to be of two kinds—those produced by food and those produced by standing. The latter were explained by the site of adhesion which usually was gastro-hepatic. M. Merklen thought that perhaps on the radiation of the pain—retro-sternal, cervical, and brachial—might be based the conclusion that an ulcer at the cardiac extremity existed with perigastritis involving the solar plexus. The treatment consisted in detaching or dividing the adhesions—a simple operation, or in resecting the ulcer and inflammatory new growths—a serious and difficult operation

INFLUENZA.

THERE is no longer any doubt that we are face to face with an outbreak of typical influenza. Medical men are beginning to feel that strain on their time which they have experienced five or six times in the last eight years. So far the cases are not of that grave kind with which we have been too familiar in several years, but they are unmistakeable. The symptoms including the sharp pyrexia often setting in very abruptly with characteristic pains, and followed by disproportionate prostration, are unmistakeable whether with or without catarrh and whether this be tonsillar, bronchial, or intestinal. We can only hope that the epidemic will keep within moderation and that the cases will not assume a more serious form. One great point in the treatment is the thorough ventilation of the sick-room and of houses in which cases occur. Where this is neglected the cases multiply and the severity of them seems to be increased.

CRIMINAL STATISTICS FOR 1897.

THIS important blue-book has recently been issued and, to quote the opening words of Mr. H. B. Simpson's introduction to it, "the criminal statistics for 1897 present similar features to those noticed in the reports on the statistics for recent years." That is to say, the decrease in serious crime in England and Wales continues and in no particular class of indictable offence is there any increase which has not been already noted in previous years. It must be remembered that the decrease in crime is an actual diminution in the number of cases for the year, not merely a diminution when the figures are viewed with reference to an increasing population. As an instance we find the number of persons sent to trial for indictable offences in 1897 to have been 11,215, a number less than in any year since 1857, except 1896, when it was slightly lower, while the average number in the five years preceding 1897 was 11,816. Again, if indictable offences dealt with summarily are added the general diminution is still observable, although it is less marked than in the case of those more serious charges dealt with at assizes and quarter sessions. At the same time there is an increase, although not a large one, in the tale of what are known as "minor offences." An example of an indictable offence which increases instead of diminishing in frequency is that of attempted suicide. For this 190 persons were sent for trial in 1897, which is less, indeed, than in 1896 when the figures were 208, but is higher by two than the average of the five years 1893-97, while the number of suicides actually carried out in 1897 was 2785 as against 2639 in 1896. Apparently a very large number of cases of attempted suicide are reported to the police but not considered of serious import or are for other reasons not brought to trial, for in an interesting table which shows the incidence of indictable offences with regard to particular months of the year we observe that in July, 1897, the police return 245 cases, as against 235 for June, 1896, the worst month of that year in this respect. It will be worthy of note in the corresponding table in the next volume of these statistics what effect, if any, may appear to have been exercised by the great autumnal heat of the past year. Commenting generally on the introduction to the statistics we may say that it contains much excellent and valuable matter, but we regret for our own purposes of reference that the table formerly given in it of cases of murder in which capital punishment was inflicted has now for some time been omitted. The table to which we refer indicated briefly the nature of the crime and the manner in which it was committed. To it was appended a list of the names of those who had been sentenced to death for murder but who had been subsequently respited, while before 1883 in the case of these a note as to the nature of the crime was also added. Had these lists been continued they would have been of use to others as well as to ourselves who have had to deal recently with the questions of punishment in cases of death brought about by illegal operations or in the execution of felonious acts without the intention to kill. Presumably statistics of these crimes will be called for by Parliament shortly, but had they been consistently given in the blue-book on crime they would have been accessible already. Apart from this, consistency of form in an annual publication is always convenient, although we admit the value of any improvements which may suggest themselves or which may be suggested from time to time. We ourselves suggest for the benefit of the compiler of next year's introduction that the addition of page references where tables are quoted would facilitate the consideration of his work.

ON THE FORMATION OF SUGAR FROM EGG ALBUMEN.

A POINT of considerable importance both in chemistry and physiology, and undoubtedly also in medicine, is to determine whether sugar is contained in a molecule of albumin, since in a severe attack of diabetes man forms sugar in his tissues probably through the intermediation of this substance. This question has been attacked by M. Ferdinand Blumenthal who has communicated the results of his researches to the Académie des Sciences in a paper read before that body on Jan 9th of the present year. Passing over negative statements M. Blumenthal refers to the work of Dr. Pavy on the Carbohydrates, who believes he has obtained sugar at the expense of albumin. But inasmuch as he precipitated albumin by alcohol it follows that the sugar contained in eggs remained adherent to the albumin and as he has not made any attempt to separate the two his experiments do not solve the difficulty. More recently Dr. Krawkow, in operating on albumin free from sugar, found that after heating it with hydrochloric acid he obtained carbohydrates which gave with phenylhydrazine an osazone which melted at from 182° C. to 185° C. But as no carbohydrate is known to produce an osazone having this melting point these experiments cannot be regarded as settling the question. Hofmeister also obtained in 1897 0·1 gramme of osazone from one gramme of albumin, but has not given its characters in detail. Last year (1898) M. Blumenthal submitted white of egg to the decomposing action of a solution of baryta hydrate in the first instance and then of hydrochloric acid, and by this means obtained a liquid which reduced Fehling's solution, and gave with acetic phenylhydrazine an osazone the melting point of which was between 194° C. and 204° C. As this osazone was only slightly soluble in hot water, pure cold alcohol and ether, and being opposed to the diagnosis of croupous pneumonia, though their diminution, or even their absence, does not necessarily imply that the case is an example of the disease. As croupous pneumonia is the only pulmonary disease in which diminution of chlorides occurs to any appreciable extent an examination of the urine may prove of great value in the diagnosis of pneumonia from other causes of consolidation of the lung, and from empyema, pleurisy with effusion, &c. It must, however, be remembered that the chlorides may be strikingly diminished in some cases of disease of the stomach—notably in dilatation.

MUNICIPAL BACTERIOLOGY.

IN the annotation on the above subject in our issue of Feb. 11th we remarked that Camberwell had provided for bacteriological examinations in certain infectious diseases and we did not see why other parishes should not do likewise. Mr. S. R. Lovett, the medical officer of health for the St. Giles's District, informs us that his vestry have recently undertaken to provide for the bacteriological examination in suspected cases of diphtheria or enteric fever. Tubes and swabs are provided and the examination is undertaken in the conjoint laboratories. Fees are paid by the board of works for the district. Mr. Lovett informs us that he believes that similar arrangements have been made in the adjoining districts of the Strand, Holborn, and Clerkenwell. We are very glad to hear this and we hope that it will not be long before similar arrangements are in existence throughout the metropolis. The vestry of St. George-the-Martyr will perhaps now reconsider its decision.

ANOTHER ABORTIONIST.

AGAIN the solemn farce has been played through to the last scene with the usual correctness of scenic accessory and costume, including the black cap. This time the person who was condemned to death without the least likelihood of the sentence being carried out (she has since been reprieved) was an elderly woman named White who apparently for many years had practised as a midwife and had been ready to procure or to attempt to procure abortion when solicited to do so. Her patients came from the ranks of the poor and ignorant and her stock-in-trade consisted of two or three catheters, usually kept in the coal-cellar lest the police might with sudden inquisitiveness pay a domiciliary visit. No attempt seems to have been made to cleanse these instruments between one occasion for their use and the next one, and the medical evidence at the trial was to the effect that had not the septic condition of one of these filthy catheters set up inflammation in an accidental wound no abortion would have resulted from the operation performed. The death of Alice Birmingham is an example of the temptations and dangers to which women of the lower classes are exposed. The fate of Jane White may be an equally instructive object-lesson. Unfettered by any law to prevent her she practised midwifery upon such women of her class as might choose to employ her. Even the proposed legislation with regard to midwives hardly touches her. Her *clientèle* if satisfied of her skill would not have cared if a Midwives Board did not agree with them. She would have been unable to use the convenient title of her class, but beyond that the absence of her name from the roll might have served to advertise her want of scruple. Apart from this, freedom to do as she chose and a certain acquired familiarity with her subject matter—the kind of familiarity which, coupled with absolute ignorance, breeds contempt for danger—made her an abortionist when her services as such were required; and but for a rash conversation of four years before, recalled by a friend of the deceased, Jane White's victim would have remained in her grave and Jane White herself would still be plying her trade. The position is consistent enough. In a country in which every quack may practise general medicine or surgery until he kills someone there is no logical reason why a woman who cares to run a small risk should not do the same in a special department without her qualifications or her methods being subjected to the smallest inquiry. The Home Secretary stated in reply to a question in the House of Commons on Feb. 14th that the subject was engaging his anxious attention. We welcome the information.

ACCOMMODATION IN THE RABBIT.

IN a recent number of the *Ophthalmic Review* (No. 204, 1898) Mr. Priestley Smith gives some interesting experiments which he has made on the capability of the rabbit to effect accommodation in the eyes. *Primâ facie* we should have thought no doubt could exist. Rabbits are as quick as most animals in perceiving the sportsman and they must surely be capable of distinguishing near objects, such as the herbage and their own young. Nevertheless, it appears that Beer and others have been unable to satisfy themselves that these animals possessed any form of accommodation, though they had no difficulty in observing it in others. Mr. Priestley Smith by examining the eyes in rabbits which had been dosed with chloroform and chloral hydrate and in animals which had been decapitated has been able to demonstrate that these animals possess a range of accommodation of about 4 D. which though less than Hess and Heine showed to be present in apes, in which it amounted to 12 D., is yet considerable.

THE HAMPSTEAD HOSPITAL.

ON the afternoon of Feb. 5th a large meeting was held in FitzJohn's-avenue for the support of a scheme of starting a general hospital in Hampstead. The chair was taken by Sir Richard Temple who said that in the unavoidable absence of Sir Henry Burdett the committee had asked one of the consulting surgeons of the existing hospital, Mr. Edmund Owen, to lay the question fully before the meeting. Mr. Owen said that the fact of Sir Henry Burdett being, as showed by the letter just read from him, in favour of the proposed building would be a certificate to the public that it was actually required. He (Mr. Owen) was of opinion that a municipality with 70,000 inhabitants certainly deserved a hospital, especially when, as was the case with Hampstead, its geographical situation rendered the conveyance of sick and injured patients to one of the nearest of the general hospitals a matter of great inconvenience. From a long association, as consultant, with their present and inadequate building he could assure the meeting that a larger one was absolutely necessary—one containing, he would suggest, 50 beds. Though it need not be an expensive building it should be artistic and decorative, otherwise it would not be worthy of the picturesque and important district which it was to serve. He spoke very strongly against the establishment of an out-patient department in the new hospital, affirming that the outdoor charities, clubs, and dispensaries in the district were fully sufficient for all purposes, and that the creation of an out-patient department would lead to endless expense and inconvenience to the hospital and would encourage throughout all parts of the parish the habits of thriftlessness and pauperisation. Sir Samuel Wilks, consulting physician to the present hospital, also expressed the opinion that the existing institution on Parliament Hill was not worthy of so important a district as Hampstead. He spoke of the advantages of decentralisation, and remarked that as he drove through the various suburbs he found each district properly equipped with its own public institutions, its theatre, and its hospital. He thought that the time had fully come for Hampstead to acquire a site and erect upon it a hospital of moderate size. Mr. E. Bond, M.P., Mr. J. S. Fletcher, Mr. Wightman, Mr. S. Figgis, and Mr. Malcolm, the honorary treasurer, also spoke, and Mr. Outhwaite, the honorary secretary, announced at the end of the meeting that upwards of £2000 had been promised for the scheme.

"CAVENDISH."

THE death is announced of a member of the medical profession who was very widely known in other fields. We refer to Mr. Henry Jones, M R C S., of world-wide renown as "Cavendish," the authority on Whist. Mr. Jones studied at St. Bartholomew's Hospital and was in general practice from 1852 to 1869. He was a member of the Court of the Apothecaries' Company but for the last 30 years he made the exposition of indoor games the pursuit of his life.

THE PLAGUE SHIP "BHUNDARA."

WE commented some weeks ago on the unfortunate attitude of the Government of Zanzibar and of our East African Protectorate in dealing with the s s. *Bhundara* which was carrying coolies and a cargo of rice from Karachi to Mombasa and on board of which there had been several cases of plague. First they wanted to repel the ship altogether, not caring, apparently, what became of her or of the 1000 people on board, then they wanted to impose restrictions upon the ship and upon those she carried which savoured of the useless quarantine observances of a past generation; and, lastly, they wanted to disinfect her cargo, which process, as is well known, has no medical or scientific significance. But, owing to appeals from India and to the decided action of the Foreign Office, these intentions were frustrated, and we are glad to find from a public announcement by Sir James L Mackay that although there was a regrettable delay yet in the end the rules of the Venice Convention were observed and the general policy of Her Majesty's Government was maintained. Thus this incident terminates satisfactorily. But it should be a lesson to the Governments of those portions of our Empire who want to retain reasonable freedom for their own commerce that they should also act reasonably when arrivals in their own ports are concerned Perhaps there are few parts of our Empire where this rule needs more observance than in India whence complaint came as to the treatment of the *Bhundara*. If ships leaving ports of India are to receive treatment on the lines of the Venice Convention all the various Governments of India should take care to act on the same lines as regards both departures from, and arrivals at, their own ports.

QUARANTINE IN THE COLONY OF VICTORIA.

WE have received the report of the Board of Health of the colony of Victoria for the years 1896–97. This report which has been presented to both Houses of the colonial Parliament and is published by the Government printer in Melbourne is not based on a compilation of vital statistics, but is a review of the work done by the Board with the object of protecting the public health and of promoting hygiene in the colony. The board consists of two nominated and seven representative members, Dr. D. Astley Gresswell, one of the nominated members, being the chairman. Perhaps the most interesting of the various sections of the report is the one on the subject of quarantine After having considered the regulations of the English Local Government Board for dealing with cholera, yellow fever, and plague, the Victoria Board of Health submitted to the colonial Minister of Health a resolution to the effect:

> "That it would not be desirable to modify the procedure at present followed in regard to quarantining for cholera, yellow fever, and plague in order to bring it into accord with the regulations now in force in the United Kingdom, and that in this connexion attention be invited to the following matters: 1. The procedure in Victoria differs from that under the regulations referred to by reason of the fact that whereas all persons on an infected ship are placed in quarantine in Victoria only those who are found to be or suspected to be infected are so dealt with in the United Kingdom, the rest being liberated after giving their names and addresses. 2. A system of medical supervision as efficient as that required under the regulations in the cases of persons liberated from an infected ship is scarcely practicable as yet in this colony. 3 . 4 The system followed in this colony does, in the opinion of the Board, materially reduce those risks without seriously deranging commerce, whereas for the United Kingdom the same system would be wholly impracticable."

During the period under review three steamers were quarantined for small-pox and one for Java fever.

PURE BEER.

THE report of the Beer Materials Committee is not calculated to lead to a new legal definition of beer such as must have been confidently hoped for by Mr. (now Sir) Cuthbert Quilter when he introduced his Pure Beer Bill in 1896. To demand that beer should be a fermented infusion of malt and hops only would involve "interference with business" while "it is not possible to determine by chemical analysis with sufficient certainty . .... whether malt adjuncts have or have not been used except in cases where excessive proportions of such adjuncts have been employed." The evidence of analysis, in other words, cannot be relied upon for obtaining a conviction. The committee are convinced also that "no deleterious materials are introduced into beer by way of substitutes for hops." The strong tendency of the report is, in fact, to negative all those proposals in favour of restricting the materials used in the elaboration of beer to malt and hops only in accordance with the honest formula used long before this age of substitution. Thus as long as substitutes are wholesome their employment is to be regarded as legal. We have before urged that it should be possible to direct legislation on lines which would ensure to the purchaser his right when he asks for beer to obtain beer and nothing but beer—i e., a liquor brewed exclusively from malt and hops Anything else should be called by another name, just as it is insisted on that butter substitutes shall be called margarine and not butter. We quite believe that the "adjuncts" and "substitutes" used in beer are not generally deleterious, but that is not the point at all, although it is an important one. Adjuncts and substitutes are not the materials in which beer had its origin and therefore to supply the purchaser with a fermented liquor made with these or in part with these is to supply him with an article not of "the nature, substance, and quality demanded" The only step which the committee suggest towards reform is that the brewing industry should be brought under stricter control "than is exercised in the case of most other industries."

THE PROFESSOR OF PATHOLOGY IN CAMBRIDGE UNIVERSITY.

DR. GERMAN SIMS WOODHEAD, *M.D*, *F.R.S. Edin.*, has been elected professor of pathology in Cambridge University in the room of the late Professor Kanthack. We congratulate Dr. Sims Woodhead upon his selection for the post and the University upon having secured so admirable a man to do their work, one of the few pathologists in the kingdom to whom the post, honourable and desirable as it is, is hardly promotion. It is unnecessary to do more than allude to Dr Sims Woodhead's qualifications for any appointment in pathology which he might seek. His literary work and his practical work as Director of the Laboratories of the Conjoint Board of the Royal College of

Physicians of London and the Royal College of Surgeons of England, have alike shown him to be an original and resourceful master of research. He takes with him to Cambridge the good wishes of all the great number of medical men to whom his position at the Conjoint Board made him known, while we may be certain that he leaves that Board sincerely regretting his departure.

THE MIDWIVES BILL.

As will be seen from our Parliamentary Intelligence a "Bill to Promote the Better Training of Women as Midwives and to Regulate their Practice" has been introduced (by Mr. J. B. Balfour) and read a first time in the House of Commons. The second reading has been put down for Wednesday, April 12th, but on that day two other measures have precedence and it is not unlikely that their discussion may occupy the entire sitting to the exclusion of the Midwives Bill. At any rate it will be well for those who are interested in the subject—and what member of the profession is not?—to make careful note of the date.

DR. P. W. LATHAM who has so long held office as physician to Addenbrooke's Hospital, Cambridge, has signified his intention of retiring from office at Lady Day. In a graceful circular letter he says that while making the announcement with the greatest possible reluctance he has arrived at the decision in accordance with the rule prevailing at all London hospitals that at the age of 65 years a hospital physician or surgeon should vacate his post. Dr. Latham will continue his private practice amid the good wishes of many generations of Cambridge medical men.

A PLEASANT conversazione was given by Sir William and Lady Mac Cormac at the Royal College of Surgeons of England on Monday, Feb. 13th. The company included a large number of ladies. On the following day H.R.H. the Prince of Wales and a distinguished company were present at the College to hear the Hunterian Oration, which was delivered by the President of the College, Sir William Mac Cormac, and which is published in full in our present issue. Subsequently His Royal Highness dined privately with the President and Council.

THE *Times* states that "the army medical authorities have a grievance against the War Office in connexion with the recent operations in the Soudan. It is alleged that no notice was taken of an application for a hospital ship to proceed to Alexandria in time to receive the soldiers invalided from the front, and that when a second application was made—the provision for treating the sick being altogether inadequate—the reply was that it was too late for anything to be done in the matter."

MR. T. GARRETT HORDER has given notice to ask the Council of the Medical Defence Union to recommend the members to pass a resolution at the next annual meeting to the effect that in future no one shall be eligible for membership who holds office in any medical aid association. We think that the Council of the Medical Defence Union will be doing good service by such a departure.

THE first Hunterian Society Lecture will be delivered by Mr. Charters J. Symonds, F.R.C.S. Eng., in the London Institution, on Feb. 23rd, at 8.30 P.M. The subject of the lecture will be the Value of Individual Symptoms in Perforative Peritonitis, more especially in regard to Operation. Members of the profession are invited to attend.

MR. W. J. COLLINS, M.S., M.D., B.Sc. Lond., F.R.C.S. Eng., ex-Chairman of the London County Council, has been appointed by the President of the Board of Agriculture to represent the Council on a Departmental Committee to inquire into the Diseases of Animals Act.

A PLAGUE scare appears to prevail in Pretoria as a result of the recent case of plague discovered in a coolie to which we referred last week. The scare is probably quite irrational but we hope all possible means of precaution against infection will be quickly taken.

H. R. H. THE PRINCE OF WALES has consented to become President of the National Association for the Prevention of Consumption and other forms of Tuberculosis.

THE first international congress of medical officers to life assurance companies or institutions will take place in Brussels in September.

THE death, in his seventy-second year, is announced of Mr. Charles Bader, M.R.C.S. Eng., consulting ophthalmic surgeon to Guy's Hospital.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE fiftieth sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Feb. 7th. The commissioners present were the Chairman (Lord Llandaff), the Right Hon. John W. Mellor, Sir John Dorington, Sir George Barclay Bruce, Mr. de Bock Porter, Mr. Robert Lewis, and Major-General Scott. The whole of the sitting was occupied by the examination of Sir Henry Knight who put in tables relating to the financial state of the Southwark and Vauxhall Company, of which he is chairman.

At the commencement of the proceedings Mr. PEMBER, Q.C., on behalf of the East London Waterworks Company, said that Mr. Crookenden, the secretary of the company, who had given evidence at the last sitting had made some mistakes in the figures which he gave. The profits of the East London Company for the half year ending Midsummer, 1898, should have been given as £90,182 10*s.* 5*d.* and the nett profits £67,609 19*s.* 3*d.*

Mr. CLAUDE BAGGALLAY, Q.C., on behalf of the Southwark and Vauxhall Company said that Sir Henry Knight did not assent to the evidence given by the witnesses of the London County Council with regard to capital expenditure, obsolete capital, and matters of that sort, but he did not wish to go into those matters unless it was the wish of the Commissioners that he should do so. He was, however, prepared to deal with the question of the revision of capital on which Mr. Gomme had given evidence at one of the earlier sittings of the Commissioners.

Sir HENRY KNIGHT, in answer to the CHAIRMAN, said that the debentures of the Southwark and Vauxhall Company were trustee stocks and in answer to Mr. MELLOR he said that trustees largely invested in them.

Mr. BALFOUR BROWNE pointed out that under the Trustee Act of 1893 the stocks of a water company which had paid 5 per cent. for 10 years became a trustee stock.

In answer to the CHAIRMAN the witness said that he thought it would not do in the case of purchase for the shareholders of the company to obtain redeemable debentures. There was always a considerable difference in the market price of redeemable and irredeemable stocks to the disadvantage of the former. The witness said that in his opinion if the water companies' undertakings were managed by the London County Council an economy of £50,000 a year would not be effected in the cost of management. On the contrary, he thought that an increase of the expenditure would take place. With regard to the interview which the witness had had with Sir Arthur Arnold on which evidence was given by the latter at one of the earlier sittings the witness said that he had expressed an unwillingness to sell and that no terms of purchase were mentioned If the undertakings were bought he thought it should be under the Lands Clauses Acts and the precedents established under those Acts The witness said that the companies had no "depreciation account The water mains lasted a very long time No depreciation was admitted to exist with regard to the value of the buildings, the witness said that these were kept constantly repaired and were always considered as good as new With regard to the cost of new mains a considerable amount of time was spent in exactly determining what the witness meant If a main of a certain size is taken up and a larger one put in its place some of the money which the new main costs is paid from the current profits of the company and some is charged to capital account If an old main is replaced by a new one of the same size the whole amount is paid for out of the profits no sum is added to the capital account If for example an old pipe which had cost £500 were replaced by one which cost £2000 of this sum of £2000 thus spent £1500 would be added to the capital account and the other £500 would be paid out of the revenue The value of land as it appears in the capital account is the same as the price which was originally given for it With regard to the scheme of purchase suggested by Mr Banbury the witness thought it was a rough and ready scheme and that it would have to be altered in order to make it just and workable

In answer to Sir JOHN DORINGTON the witness said that purchase should take place by arbitration

In answer to the CHAIRMAN the witness said that the present storage capacity of the company amounted to 456 000 000 gallons Since the statement of the company putting it at 136 000 000 gallons reservoirs having a capacity of 320 000 000 gallons had been added

In answer to the CHAIRMAN the witness said that he thought that some economies might be effected if the companies became federated, at about which period of the sitting the Chairman had considerable trouble in obtaining answers from the witness and he complained of the time wasted in beating about the bush

In answer to Sir JOHN DORINGTON the witness said that he did not propose that representatives of public bodies should be on such a confederation In his opinion an area over which the confederation should have power should be settled by experts but he thought that it should be a very extensive tract extending beyond the Chiltern Hills on the north to Reigate hills on the south to the Medway on the east, and as far as Reading on the west The private companies which now existed in Hertfordshire should be taken into this confederation

With regard to the question of control the witness said in answer to the CHAIRMAN, that he could not suggest any additional measure which would be useful to water consumers He was afraid that control might be extended to such an extent that the whole of the responsibilities would be taken from the companies hands and put on to somebody else

On the question of the advisability of taking flood water the witness said that he had lived on the banks of the Thames for 40 years had watched the floods closely, and concluded that it was safe to take the water from four to six days after flood He did not think that there was anything injurious in flood water but as business men they would not take thick flood water because it would only mean putting so much deposit into their storage reservoirs and so much on to their filter beds

In answer to the CHAIRMAN the witness said that the company did not always charge the full statutory price for water and gave as an example the case of a wharf of which the rateable value was £11 317 and the amount on which the water rent was levied was £1886

In answer to Mr DE BOCK PORTER the witness said that water was only used in a very small part of these premises that is, just the counting house part He did not know whether there was a well on the premises

In answer to Major General SCOTT the witness said that they proposed to construct reservoirs at Molesey to give a storage capacity of 1 176 000 000 gallons There were to be two reservoirs one containing about 580 000 000 gallons and the other the remainder

Major General SCOTT pointed out that a single reservoir at Staines would occupy a much larger space than the whole area which the Southwark and Vauxhall Company proposed to use for two storage reservoirs and suggested that there was economy in a large reservoir, The witness said that the advantage of a reservoir of moderate capacity was that in case of cleaning a smaller area was thrown out of use

In answer to Mr DE BOCK PORTER the witness said that he was interested in the adventure of bringing sea water to London for watering roads, cleansing sewers, and baths; It would also be useful for putting out fires In answer to the CHAIRMAN the witness said that he could not "tax his memory as to whether the experiment of throwing salt water on fires had been made

With regard to the flow of water which had to be maintained in the Thames the witness said he wished to satisfy the Commissioners that 100 000 000 gallons a day was a sufficient flow and the CHAIRMAN asked what proof he had in favour of the truth of that theory The witness replied that during part of last year the flow was diminished to an amount less than 100 000 000 gallons a day and that there was no material complaint

The CHAIRMAN pointed out that Mr Moore of the Thames Conservancy Board had shown that people were sick of complaining because it was of no use

In answer to Mr BALFOUR BROWNE who examined on behalf of the London County Council the witness said that he did not object to control on the ground that the company which he represented would have to spend money which would not be remunerative he thought that should a competent authority after inquiry prove that their works were deficient they would willingly submit to any requirements which would tend to make all the works efficient It would be unreasonable and impossible for the Local Government Board to compel the West Middlesex Company to supply Wandsworth, Putney and Battersea places which are within the statutory limit of supply of that company There was no reasonable control that could be imagined which he feared on behalf of his company

Mr BALFOUR BROWNE suggested that the Local Government Board might have power to compel the company to have new sources of supply or to make reservoirs

Major General SCOTT pointed out that in the year 1852 such a course was taken inasmuch as a transfer of the intakes of the companies was insisted upon under the Act of that year

With regard to the question of obsolete capital Mr BALFOUR BROWNE pointed out that the auditor appointed under the Act of 1871 had stated in his first report that as regards the Southwark and Vauxhall Company he had come to the conclusion that capital should be relieved, to the extent of £33 082 8s 8d and that the accruing revenue should be charged therewith in addition to an outstanding claim of £10 722 It was therefore evident that the company had wrongly charged capital with a sum of over £33 000 The witness said that the award of the auditor had been carried out by the company and the money had been paid by annual instalments

Mr BALFOUR BROWNE called attention to the fact that recently a difference of opinion had existed between the auditor of the Local Government Board and the company with regard to the way in which the cost of relaying a main should be paid The witness spoke of a slight 'weeping at some of the joints as being the cause of the difference of opinion and said that the matter had been settled to the satisfaction of the Government auditor

Mr BALFOUR BROWNE pointed out another case in which there was a difference of opinion between the company and the auditor with regard to a sum of £1700, and the witness suggested that this fact showed the excellent supervision which already existed which made it impossible for them or any other company to carry to capital a sum which they ought not to put there

Mr BALFOUR BROWNE asked the witness at what depth the mains were laid and whether it was not a fact that they had suffered very much from the frost of 1894 The witness replied that they were gradually lowering the mains and that some of them were originally laid too near the surface Should purchase be decided on the witness thought that it should be done by arbitration He did not agree with one of the witnesses of the London County Council who suggested that there would be a large saving in the matter of directors' fees if the managed by that body The important decision in Grand Junction Waterworks the profits of the company. In 1883 they amounted to over £80,000 a year and after that decision they went down to £55,000 and to £54,000 in the year 1886.

Lord ROBERT CECIL, on behalf of Hertfordshire, said that he had a profound distrust of Sir Henry Knight's scheme of confederation. He wished to guard the interests of Hertfordshire by saying this, but he had no wish to elaborate the matter.

In answer to Mr. DE BOCK PORTER, the witness said that in relaying the mains a part of the cost was charged to revenue and part to capital. A small proportion was charged to capital because they "had value for it" in the protection which was thereby afforded in case of frost.

With regard to the amount in the capital account for land the witness said that the amount paid originally for land at Battersea which was about £250 an acre still stood in their accounts at that price, although that sum was insignificant as compared with the present value of the property.

THE fifty-first sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Feb. 13th. The Commissioners present were the chairman (Lord Llandaff), Sir John Dorington, Sir George Barclay Bruce, Mr. de Bock Porter, Mr. Cripps, Q.C., Mr. Robert Lewis, and Major-General Scott. The witnesses examined were Mr. J. W. Restler, engineer to the Southwark and Vauxhall Water Company, and Mr. Edmund Boulnois, M.P., Chairman of the West Middlesex Waterworks Company and of the Staines Reservoir Committee. Statistics were put before the Commissioners with regard to the increase of population in the Southwark and Vauxhall Company's district and with regard to the complaints received by that company from their customers from the year 1880 to the present year. In addition to these tables a statement as to the present condition of the Southwark and Vauxhall Water Company was put in. This statement gave an account of the sources of supply, of the area of supply, and a brief description of the various stations of the company, of which a full account has already appeared in THE LANCET.[1] Mr. Restler said that the area supplied by the Southwark and Vauxhall Company was 50½ square miles in extent and that the population amounted to 819,901. The West Middlesex, the Lambeth, and the Kent Companies had power to supply within parts of their statutory area, and the Lambeth Company were authorised to supply no less than four-fifths of their entire area. Since the year 1852 no pipes had been laid by these two companies in the same streets and there was no competition between the Southwark and Vauxhall and the other companies. The Lambeth Company did not charge their maximum rate in the area which was partly supplied by the Southwark and Vauxhall Company.

In answer to Sir JOHN DORINGTON the witness said that in speaking of the area thus jointly supplied he referred to streets in which pipes of the two companies were actually laid and in use at the present time.

In answer to the CHAIRMAN the witness said that under the Act of 1884 the Southwark Company were allowed to make agreements with other companies to abolish competition. The company had very few complaints with regard to the quantity and quality of the water which they supplied to their customers. During the year 1898 there was one complaint as to the quality and the amount of complaints received as to the quantity supplied were one per day per half million of persons supplied. During the drought of last summer there was no lack of water. Most of the cases in which complaints were made were due to defective fittings in the houses of the customers, and very frequently to the fact that the ball-cocks were out of order. During the months of September and October, 1898, the Southwark Company was able to supply about 5,000,000 gallons per day for the use of the customers of the East London Company.

The CHAIRMAN made an inquiry with regard to the supply of water containing 16,000 bacteria per cubic centimetre and the witness replied that an investigation was made into the matter and the sand of the filter was examined but nothing was found to account for the presence of the large number of bacteria. The filter had since been worked satisfactorily.

With regard to division of the area supplied by the Southwark Company between the counties of Surrey and Middlesex the witness said that such an arrangement would not tend to economy. With regard to the question of whether the water companies ought to be made liable for the consequences of frost, drought, and accident the witness gave it as his opinion that water companies should not be liable for mishaps so caused. He was of opinion that whether the undertakings were in the hands of municipalities or of private companies the effects of frost and drought would manifest themselves equally.

The CHAIRMAN remarked that the fact that the companies were able to make charges when they did not supply water seemed to require justification. The witness contended that it was not correct to say that the companies had supplied no water and that sometimes in periods of frost as a matter of fact the quantity of water actually exceeded that supplied during a period of drought. The companies gained nothing by the frost; on the contrary, the results of it were disastrous to them.

The CHAIRMAN said that it did not seem right that high supply should be charged for when it was not given.

Mr. PEMBER, Q.C., on behalf of some of the water companies, contended that that condition was attached to the statutory regulations with regard to payment.

The CHAIRMAN remarked that he received every day letters from customers of the East London Waterworks Company who complained that although high supplies were not given no exemption had been made with regard to payment.

With regard to the future demands on the Southwark Company the witness said that it was estimated that in the year 1941 they would have to give a supply of 50,000,000 gallons a day. The cost of erecting the necessary plant and of the pumping apparatus to afford this increased supply if the water were taken from the Thames and from wells would amount to something like £2,000,000.

In answer to Mr. BALFOUR BROWNE the witness said that samples of water were taken for bacteriological examination daily.

Mr. EDMUND BOULNOIS in reply to the CHAIRMAN said
that the West Middlesex Company had always been able to
furnish their customers with a full supply of water. As the
result of Lord Balfour's Commission which reported in
favour of a continuance of supplies from the Thames and
from the Lee the company had obtained from Parliamen
authorisation to construct large subsidence reservoir
which were capable of holding a fifteen days' suppl
and they had made new filter beds. More recently the We
Middlesex Company had joined with the New River and Gra
Junction Companies in the Staines Reservoirs Scheme
means of which they would be able to supply from 12,000,0
to 15,000,000 gallons of water daily in addition to th
present supply. During the present session of Parliam
the company were promoting a Bill authorising them to
a 42-inch main from Hampton to their new reservoir
Barnes. (A full account of these stations has alr
appeared in THE LANCET.[2]) When these works were ca
out the company would be able to provide for the incre
demands of their district for many years. The witness the
that the New River, the Grand Junction, and the
Middlesex Companies had adopted the most econ
method possible in uniting to carry out the Staines Res
Scheme.

With regard to the management of the London water
the witness thought that it was no disadvantage that i
[illegible] in the hands of eight different companies. The direc
water company had a great advantage over a shifting
body which was incapable of ensuring any degree
tinuity with regard to policy. If the work carried
the companies were managed by a shifting elect
it [illegible] probably lead to an increase of hig
offic[illegible] we.

The CHAIRMAN suggested that good services we
[illegible] performed by people who were not paid. "Th
County Council," he suggested, "would scorn paym
witness said that he did not think there would be
effected by an amalgamation of the companies, bu
conceive a possibility of an amalgamation for the
obtaining water from a distance. The customers
Middlesex Company were in the fortunate positi
supplied with water at a low rental. If the wa
the other parts of London were brought down to
would be necessary in order to make good the de
a "rate in aid" should be levied on the whole are
If this were done the customers of the We

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[1] THE LANCET, March 20th and 27th, 1897.

[2] THE LANCET, Feb. 27th, 1897.

Company would necessarily suffer, for they would have to pay a rate in aid in order to lower the price of water given to the water consumers in other parts of the metropolis.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on Feb 9th, the President, Sir WILLIAM MACCORMAC, Bart., K.C.V.O., being in the chair.

The Council, having been advised by counsel that the clauses proposed by the General Medical Council for the amendment of the disciplinary clauses of the Medical Acts would seriously affect the independent action of the Council of the College, resolved unanimously that the President of the General Medical Council be informed that the Council do not approve the clauses in their present form.

A letter was read from Mrs Henry Lee, offering to the College a portrait by Mr James Sant, R A., of her husband, the late Mr. Henry Lee, F R C.S. Eng , past member of the Council of the College The gift was accepted with the sincere thanks of the Council.

A letter was read from the Chairman of the Education Committee of the General Medical Council, asking for information as to the desirability or otherwise of raising the standard of preliminary education for medical students, after due notice, to that of the "Senior Local" and "Higher Grade" examinations. The subject was referred to the Committee of Management.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6730 births and 4797 deaths were registered during the week ending Feb. 11th. The annual rate of mortality in these towns, which had been 15 8 and 19 4 per 1000 in the two preceding weeks, further rose last week to 21 9. In London the rate was 22 8 per 1000, while it averaged 21·3 in the 32 provincial towns. The lowest death-rates in these towns were 11 1 in Burnley, 14 0 in Brighton, 15·1 in Croydon, and 15 7 in Norwich; the highest rates were 25 0 in Manchester, 25 2 in Oldham, 30 5 in Liverpool, and 32 4 in Preston. The 4797 deaths in these towns included 403 which were referred to the principal zymotic diseases, against 329 and 340 in the two preceding weeks; of these, 114 resulted from whooping-cough, 111 from diphtheria, 68 from measles, 49 from "fever" (principally enteric), 33 from diarrhœa, and 28 from scarlet fever. No fatal case of any of these diseases was recorded last week in Norwich; in the other towns they caused the lowest death-rates in Plymouth, Wolverhampton, Bradford, and Gateshead, and the highest rates in West Ham, Cardiff, Preston, and Sunderland. The greatest mortality from measles occurred in West Ham, Bolton, and Manchester; from scarlet fever in Sunderland; from whooping-cough in Bristol, Cardiff, Preston, Halifax, and Sunderland, and from "fever" in Preston. The 111 deaths from diphtheria included 49 in London, 10 in Leeds, eight in West Ham, seven in Sheffield, six in Birmingham, six in Liverpool, and four in Leicester. No fatal case of small-pox was registered last week in any of the 33 large towns, and no small-pox patients were under treatment last week in any of the Metropolitan Asylums Hospitals The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday last, Feb. 11th, was 2642, against numbers declining from 2939 to 2665 at the end of the six preceding weeks; 253 new cases were admitted during last week, against 249, 220, and 265 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 266 and 348 in the two preceding weeks, further rose last week to 481, and were 19 above the corrected average The causes of 77, or 1·6 per cent., of the deaths in the 33 towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Salford, Bradford, and in 11 other smaller towns; the largest proportions of uncertified deaths were registered in Cardiff, Liverpool, Blackburn, and Preston.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the three preceding weeks from 21 3 to 28 4 per 1000, further rose to 31·2 during the week ending Feb. 11th, and exceeded by as much as 9 3 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 18 6 in Perth and 24 2 in Leith to 35 0 in Glasgow and 39 9 in Paisley. The 951 deaths in these towns included 37 which were referred to whooping-cough, 22 to measles, 19 to diarrhœa, nine to diphtheria, eight to "fever," and six to scarlet fever. In all, 101 deaths resulted from these principal zymotic diseases, against 78 and 95 in the two preceding weeks. These 101 deaths were equal to an annual rate of 3 3 per 1000, which was 1·5 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping cough, which had been 30 and 43 in the two preceding weeks, declined to 37 last week, of which 15 occurred in Glasgow, seven in Edinburgh, five in Dundee, and five in Leith. The deaths referred to measles, which had been 15 and 16 in the two preceding weeks, further rose to 22 last week, of which eight were recorded in Aberdeen, six in Glasgow, and four in Edinburgh. The 9 fatal cases of diphtheria exceeded by two the number in the preceding week, and included four in Edinburgh and three in Glasgow. The eight deaths referred to different forms of "fever" considerably exceeded the numbers recorded in recent weeks and included four in Glasgow and two in Paisley. Of the six fatal cases of scarlet fever three occurred in Glasgow and two in Aberdeen. The deaths from diseases of the respiratory organs in these towns, which had been 161 and 282 in the two preceding weeks, further rose to 346 last week, and were as many as 220 above the number in the corresponding period of last year. The causes of 38, or four per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 24 9 and 31 8 per 1000 in the two preceding weeks, declined to 31 6 during the week ending Feb. 11th. During the past four weeks the death-rate in the city has averaged 29 2 per 1000, the rate during the same period being 18 8 in London and 24 6 in Edinburgh. The 212 deaths registered in Dublin during the week under notice were within two of the number in the previous week, and included eight which were referred to the principal zymotic diseases, against 11 and 10 in the two preceding weeks; of these, four resulted from "fever," two from whooping-cough, one from scarlet fever, one from diphtheria, and not one either from small-pox, measles, or diarrhœa. These eight deaths were equal to an annual rate of 1·2 per 1000, the zymotic death-rate during the same period being 1 8 in London and 3 7 in Edinburgh. The deaths referred to different forms of "fever," which had been five and one in the two preceding weeks, rose again to four last week. The fatal cases of whooping-cough, which had been five and three in the two preceding weeks, further declined to two last week. The mortality from scarlet fever also showed a decline from that recorded in the preceding week. The 212 deaths in Dublin last week included 37 of infants under one year of age and 59 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a slight decline from the numbers recorded in the preceding week. Six inquest cases and four deaths from violence were registered; and 90, or more than a third, of the deaths occurred in public institutions. The causes of 11, or more than 5 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING 1898.

COMPLETE statistics relating to sickness and mortality during the year 1898 in each of the 43 sanitary areas of London are summarised in the accompanying table. The mortality [illegible] relate to the deaths of persons actually belonging [illegible] areas, and are the result of a com[illegible] hs occurring in the [illegible] in [illegible] which [illegible]

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING THE YEAR 1898.

(Specially compiled for THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1898.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,504,766	32	16,894	11,855	16	3024	55	247	5169	23	37,315	8·3	1	3063	581	1756	2157	3	554	9	4352	12,432	2·77	82,031	18·3	166
West Districts.																										
Paddington	127,480	—	304	260	—	74	2	5	131	—	776	6·1	—	93	8	61	44	—	17	1	83	307	2·41	2041	16·1	161
Kensington	172,174	—	472	222	8	104	4	11	180	1	1002	5·8	—	120	24	26	52	2	13	—	110	347	2·02	2809	16·4	181
Hammersmith	107,370	—	461	164	—	61	5	3	93	—	787	7·3	—	129	22	23	36	—	12	—	120	342	3·19	1964	18·3	183
Fulham	125,275	—	811	476	—	71	1	8	121	—	1488	11·9	—	59	35	61	41	—	18	1	180	395	3·16	2155	17·2	168
Chelsea	96,713	—	336	273	—	55	1	4	94	—	763	7·9	—	92	15	41	26	—	14	—	74	262	2·73	1752	18·2	176
St. George Hanover-square	80,608	1	221	111	—	39	1	3	43	—	419	5·2	1	35	4	10	16	—	9	—	29	104	1·29	1059	13·2	120
Westminster	52,574	1	99	127	—	46	1	2	50	—	326	6·2	—	52	6	22	43	—	3	—	32	157	3·00	1090	20·8	182
St. James Westminster	22,200	—	31	43	—	6	—	—	20	—	100	4·5	—	15	2	5	1	—	1	—	9	33	1·51	411	18·6	177
North Districts.																										
Marylebone	140,483	1	312	235	—	101	2	10	181	—	842	6·0	—	129	13	45	43	—	22	—	79	331	2·36	2565	18·3	132
Hampstead	78,755	—	242	135	—	47	—	1	41	—	466	5·9	—	26	3	19	27	—	10	1	21	110	1·40	917	11·7	125
St. Pancras	243,416	2	980	499	—	220	2	18	321	4	2046	8·4	—	111	53	93	87	—	41	—	214	602	2·49	4651	19·2	170
Islington	344,616	—	1336	545	2	237	1	19	280	—	2420	7·0	—	334	26	90	180	1	36	—	291	958	2·78	5712	16·6	159
Stoke Newington	34,660	—	149	54	—	18	—	3	28	—	252	7·3	—	10	1	5	9	—	2	—	27	54	1·56	475	13·7	108
Hackney	219,630	2	1024	874	—	219	3	14	300	—	2436	11·1	—	111	30	120	94	—	41	—	180	576	2·64	3588	16·3	152
Central Districts.																										
St. Giles	37,519	—	65	41	—	23	—	1	70	—	200	5·3	—	26	2	6	9	—	5	—	23	71	1·89	756	20·2	137
St. Martin-in-the-Fields	12,424	—	11	9	—	12	—	—	8	—	40	3·2	—	1	1	3	1	—	1	—	4	11	0·88	192	15·5	156
Strand	23,284	—	47	48	—	9	—	—	10	—	114	4·9	—	13	2	4	4	—	4	—	14	41	1·76	532	22·9	171
Holborn	30,056	1	97	147	—	9	—	2	41	1	298	9·9	—	35	2	22	12	—	2	—	28	101	3·37	747	24·9	221
Clerkenwell	66,120	—	331	265	—	42	1	2	69	—	710	10·8	—	61	13	36	35	—	7	—	94	246	3·75	1432	21·7	196
St. Luke	41,076	—	196	192	—	15	—	2	58	—	463	11·3	—	37	15	24	24	—	2	—	63	165	4·04	1054	25·7	150
City of London	29,088	1	79	46	—	20	—	—	19	—	165	5·7	—	8	2	10	2	—	6	1	5	34	1·17	555	19·1	128
East Districts.																										
Shoreditch	121,485	—	421	255	—	91	1	7	173	1	949	7·8	—	103	21	44	93	—	17	—	192	480	3·95	2707	22·3	196
Bethnal Green	129,027	—	433	340	—	102	2	3	324	—	1204	9·3	—	152	11	62	119	—	17	—	142	503	3·90	2872	22·3	184
Whitechapel	80,559	2	252	187	—	41	—	5	147	—	634	7·9	—	45	8	20	24	—	9	—	63	169	2·10	1622	20·2	144
St. George-in-the-East	48,241	—	143	113	—	55	—	3	74	—	388	8·0	—	35	6	14	39	—	7	—	60	159	3·31	1192	24·8	195
Limehouse	58,661	—	190	137	—	43	1	1	89	—	461	7·9	—	57	5	26	62	—	8	1	90	249	4·26	1390	23·8	208
Mile End Old Town	112,523	—	425	294	—	58	1	9	178	—	965	8·6	—	93	8	63	74	—	13	—	142	393	3·51	2229	19·9	155
Poplar	170,220	4	646	468	—	160	3	5	226	2	1514	8·9	—	130	22	89	120	—	30	1	237	629	3·72	3605	21·2	191
South Districts.																										
St. Saviour Southwark	24,562	—	79	115	—	14	—	—	35	—	243	9·9	—	17	1	15	14	—	4	—	25	76	3·09	577	23·6	211
St. George Southwark	60,466	—	309	245	3	40	1	6	71	3	677	11·2	—	43	20	38	34	—	9	—	99	241	3·99	1470	24·4	188
Newington	123,183	—	619	465	—	90	1	11	156	—	1342	10·9	—	55	24	72	45	—	10	—	182	393	3·17	2520	20·5	173
St. Olave Southwark	11,228	—	67	16	—	5	—	—	24	—	112	9·9	—	5	1	3	11	—	1	—	5	26	2·31	232	20·6	132
Bermondsey	85,738	1	458	268	—	51	—	4	83	—	870	10·2	—	59	19	44	47	—	9	—	80	253	3·02	1771	20·7	157
Rotherhithe	40,849	—	145	42	—	24	—	3	89	—	303	7·4	—	33	10	11	15	—	1	—	21	91	2·24	773	19·0	169
Lambeth	304,073	1	998	823	1	164	13	14	284	7	2305	7·6	—	135	30	114	159	—	35	1	281	755	2·50	5422	17·9	154
Battersea	171,921	4	806	800	1	94	—	10	189	—	1904	11·1	—	114	28	120	68	—	14	2	157	503	2·93	2897	16·9	166
Wandsworth	202,526	1	706	602	—	123	1	20	235	—	1688	8·3	—	111	16	89	86	—	16	—	166	484	2·40	2902	14·4	144
Camberwell	261,189	5	954	695	—	117	3	11	233	—	2018	7·8	—	117	13	87	123	—	26	—	252	628	2·41	4261	16·4	160
Greenwich	180,441	—	650	555	1	187	3	10	208	—	1614	9·0	—	108	21	41	122	—	33	—	222	555	3·08	3336	18·5	176
Lewisham (excluding Penge)	88,562	—	203	283	—	45	—	4	54	1	590	6·7	—	35	10	28	32	—	6	—	112	221	2·50	1350	15·3	161
Woolwich	41,478	—	204	109	—	22	—	3	43	—	381	9·2	—	58	5	19	27	—	8	—	54	171	4·13	844	20·4	173
Lee	39,717	3	158	162	—	23	—	4	43	—	393	9·9	—	6	7	14	14	—	7	—	30	78	1·97	592	14·9	160
Plumstead	62,531	—	422	111	—	28	1	7	47	3	619	9·9	—	58	12	15	33	—	3	—	57	178	2·85	1016	16·3	155
[illegible]		2	2	4	—	19	—	—	1	—	28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

712 cases of membranous croup.

† Including deaths from membranous croup.

the notified cases of infectious diseases in London during 1898, it appears that the proportion of persons reported to be suffering from one or other of the nine diseases in the accompanying table was equal to 8·3 per 1000 of the population, estimated at 4,504,766 persons in the middle of the year. In the three preceding years the rates were 9·5, 11·1, and 10·2 per 1000 respectively. Among the various sanitary areas the lowest rates were 3·2 in St. Martin-in-the-Fields, 4·5 in St. James Westminster, 4·9 in Strand, 5·2 in St. George Hanover Square, 5·3 in St. Giles, and 5·7 in City of London; the highest rates were 10·8 in Clerkenwell, 10·9 in Newington, 11·1 in Hackney and in Battersea, 11·2 in St. George Southwark, 11·3 in St. Luke, and 11·9 in Fulham. The prevalence of small-pox in London showed a further marked decline during 1898, the new cases notified being only 32, against 2813, 1192, 979, 225, and 104 in the five preceding years; of these, five belonged to Camberwell, four to Battersea, four to Poplar, three to Lee, and two each to St. Pancras, Hackney, Whitechapel, and Port of London sanitary areas. The number of small-pox patients admitted into the Metropolitan Asylums Hospitals during 1898 did not exceed five, and no case remained under treatment at the close of the year. The prevalence of scarlet fever in London during 1898 showed a marked further decline, the number of cases notified being 16,894, against 25,647 and 22,850 in the two preceding years. This disease was proportionally most prevalent in Fulham, Clerkenwell, St. George Southwark, Newington, St. Olave Southwark, Bermondsey, and Plumstead sanitary areas. During the year under notice 12,480 scarlet fever patients were admitted into the Metropolitan Asylums Hospitals, against 11,271, 15,982, and 15,256 in the three preceding years; the number of cases under treatment, which had been 3506 at the beginning of the year, was 2883 at the end of December last. Diphtheria also showed a decreased prevalence during 1898, the cases notified being 11,855, against 11,223, 13,808, and 13,192 in the three preceding years. This disease showed the highest proportional prevalence in Fulham, Hackney, Holborn, Clerkenwell, St. Luke, St. Saviour Southwark, St. George Southwark, Battersea, and Lee sanitary areas. The Metropolitan Asylums Hospitals contained 1065 diphtheria patients at the beginning of 1898; 7390 cases were admitted during the year, and 1239 remained under treatment at the end of December last. The prevalence of enteric fever in London during the year under notice almost corresponded with that recorded in 1897, 3024 cases being notified, against 3103 in the preceding year; among the various sanitary areas this disease was proportionally most prevalent in Westminster, St. Pancras, Hackney, St. Martin-in-the-Fields, St. George-in-the-East, Poplar, and Greenwich. The number of enteric fever patients admitted into the Metropolitan Asylums Hospitals during 1898 was 1116, against 661, 600, and 939 in the three preceding years, and 255 cases remained under treatment at the end of December last. Erysipelas showed the highest proportional prevalence in St. Giles, Bethnal Green, Whitechapel, St. George-in-the-East, Limehouse, St. Olave Southwark, and Rotherhithe sanitary areas. The 247 notified cases of puerperal fever showed a further slight decline from the numbers recorded in the two preceding years; 20 belonged to Wandsworth, 19 to Islington, 18 to St. Pancras, 14 to Hackney, 14 to Lambeth, 11 to Kensington, 11 to Newington, and 11 to Camberwell sanitary areas.

During the year under notice the deaths of 82,037 persons belonging to London were registered, equal to a rate of 18·3 per 1000, against 19·4, 18·2, and 17·7 in the three preceding years, 1895-6-7. This rate was 1·0 per 1000 below the average rate in the 10 preceding years, 1888-97. In the various sanitary areas the lowest death-rates were 11·7 in Hampstead, 13·2 in St George Hanover-square, 13·7 in Stoke Newington, 14·4 in Wandsworth, 14·9 in Lee, and 15·3 in Lewisham (excluding Penge); the highest rates were 23·6 in St. Saviour Southwark, 23·8 in Limehouse, 24·4 in St. George Southwark, 24·8 in St. George-in-the-East, 24·9 in Holborn, and 25·7 in St. Luke. Taking the five groups of sanitary areas the rate of mortality during 1898 was equal to 16·9 in the north, 17·0 in the west, 17·7 in the south, 21·7 in the east, and 22·1 in the central districts. To the principal zymotic diseases 12,482 deaths were referred during the year under notice; one resulted from small-pox, 3069 from measles, 581 from scarlet fever, 1756 from diphtheria, 2157 from whooping-cough, three from typhus, 554 from enteric fever, nine from simple and ill-defined forms of fever, and 4352 from diarrhœa. These 12,482 deaths were equal to an annual rate of 2·77 per 1000, against 2·62, 3·11, and 2·57 in the three preceding years. Among the various sanitary areas the zymotic death-rates ranged from 0·88 in St. Martin-in-the-Fields, 1·29 in St. George Hanover-square, 1·40 in Hampstead, 1·51 in St. James Westminster, 1·56 in Stoke Newington, and 1·76 in Strand, to 3·90 in Bethnal Green, 3·95 in Shoreditch, 3·99 in St. George Southwark, 4·04 in St. Luke, 4·13 in Woolwich, and 4·26 in Limehouse. Only one fatal case of small-pox was registered in London during the year under notice, the corrected average number in the 10 preceding years being 44; this case belonged to St. George Hanover-square sanitary area. The 3069 deaths referred to measles were 301 above the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Hammersmith, Chelsea, St. Margaret Westminster, Islington, Holborn, Bethnal Green, Limehouse, and Woolwich. The 581 fatal cases of scarlet fever were as many as 435 below the corrected average number; this disease was proportionally most fatal in Fulham, St. Pancras, St. Luke, St. George Southwark, Bermondsey, and Rotherhithe sanitary areas. The 1756 deaths referred to diphtheria were 405 below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Hackney, Clerkenwell, St. Luke, Mile End Old Town, St. Saviour Southwark, St. George Southwark, Newington, and Battersea. The 2157 fatal cases of whooping-cough were 364 below the corrected average number; this disease was proportionally most fatal in St. Margaret Westminster, Shoreditch, Bethnal Green, St. George-in-the-East, Limehouse, Poplar, and St. Olave Southwark sanitary areas. The three deaths from typhus included two in Kensington and one in Islington sanitary areas. The 554 fatal cases of enteric fever were slightly below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in St. Pancras, Hackney, Strand, City of London, Greenwich, and Woolwich. The 4352 deaths from diarrhœa were as many as 1354 above the corrected average number; among the various sanitary areas this disease was proportionately most fatal in Fulham, Clerkenwell, St. Luke, Shoreditch, Limehouse, Poplar, St. George Southwark, and Newington. In conclusion, it may be stated that the mortality in London during 1898 from these principal zymotic diseases was about 3 per cent. above the average, owing to the excessive fatality of summer diarrhœa.

Infant mortality in London last year, measured by the proportion of deaths under one year of age to registered births, was equal to 166 per 1000, a higher rate than in any of the 10 preceding years, during which period the rate averaged 155 per 1000. The rates of infant mortality in the various sanitary areas ranged from 108 in Stoke Newington, 120 in St. George Hanover-square, 125 in Hampstead, 128 in City of London, 132 in Marylebone and in St. Olave Southwark, and 137 in St. Giles, to 191 in Poplar, 195 in St. George-in-the-East, 196 in Clerkenwell and in Shoreditch, 208 in Limehouse, 211 in St. Saviour Southwark, and 221 in Holborn.

THE SERVICES.

Royal Navy Medical Service.

Fleet Surgeon Alfred Henry Miller has been placed on the Retired List at his own request.

The following appointments have been made:—Fleet Surgeon Thomas E. H. Williams to the *Defiance*. Staff Surgeon Walter G. Axford to the *Pylades*. Surgeons: Robert H. Mornement to the *Vivid*, for disposal; Harold Huskinson to the *Boscawen*, for the *Agincourt;* Richard F. Clark to the *Niobe;* H. O. Whiteside to the *Pembroke;* C. C. Macmillan to the *Wildfire;* and George Gibson to the *Tamar*.

Royal Army Medical Corps.

The under-mentioned Captains to be Majors, dated Feb. 5th, 1899:—William J. Trotter, Frederick J. Morgan, William H. Horrocks, Charles H. Hale, D.S.O., Hugh O. Thurston, Bertal H. Scott, Walter C. Poole, Oliver R. A. Julian, George Raymond, Eustace A. Burnside, Thomas McCulloch, Alfred B. Hinde, Alexander Y. Reily, John W. Cockerill, John Ritchie, Harry St. George S. Hore, Stuart Macdonald, Alexander O. C. Watson, Edward W. Gray, David Stiell, Lawrence E. A. Salmon, George A. Wade, James Minniece, Maurice P. C. Holt, William L. Gray, Edward G. Browne, James C. Morgan, Herbert I. Pocock, George Hilliard, C.M.G., Charles R. Elliott, Charles A. Young, John W. Bullen, James C. Weir, Benjamin J. Inniss, Robert C. Thacker, Stephen F. Clark, and Edward M. Hassard.

Major C. H. Burtchaell proceeds to Woolwich for duty. Captain G. S. Crawford has arrived in Dublin for duty. Lieutenant A. B. MacCarthy proceeds from Dover to Lydd to assume medical charge of troops and Station Hospital. Major H. J. Barnes has arrived in the Eastern District. Lieutenant J. G. Gill is posted to Canterbury, and Lieutenants G. C. Phipps and R. S. Roger to Western Heights, Dover, for duty.—Captains J. H. Rivers and H. A. Bray are selected for service with the Egyptian Army.

INDIA AND THE INDIAN MEDICAL SERVICES.

The services of Captain L. Rogers (Bengal) are placed temporarily at the disposal of the Government of Bengal, with effect from Nov. 15th, 1898, but he will continue to officiate as Imperial Bacteriologist to the Government of India during the absence on leave of Dr. Lingard, or until further orders.

VOLUNTEER CORPS.

Royal Engineers: 1st Newcastle-on-Tyne: Surgeon-Captain T. A. Dodd to be Surgeon-Major. *Rifle:* 3rd (Cambridgeshire) Volunteer Battalion the Suffolk Regiment: Frederick Edward Apthorpe Webb to be Surgeon-Lieutenant. 3rd Volunteer Battalion the Prince of Wales's Own (West Yorkshire Regiment): Reginald George Hann to be Surgeon-Lieutenant. 1st (Pembrokeshire) Volunteer Battalion the Welsh Regiment: Surgeon-Lieutenant J. H. H. Williams resigns his commission. 2nd Tower Hamlets: Edward Thomas McDonnell to be Surgeon-Lieutenant.

VOLUNTEER INFANTRY BRIGADE.

West London: Surgeon-Captain H. G. Thompson, 1st Volunteer Battalion the Royal Fusiliers, to be Brigade-Surgeon-Lieutenant-Colonel on appointment as Senior Medical Officer to the Brigade.

ROYAL ARMY MEDICAL CORPS EXAMINATION.

The following is a list of the successful candidates for commissions in the Royal Army Medical Corps at the recent examination in London:—

Names.	Marks.	Names.	Marks.
G. G. Delap	2393	C. C. Murison	2052
F. Warren	2388	H. B. Onraet	2047
R. A. Cunningham ...	2385	P. H. Falkner...	2043
V. J. Crawford	2384	H. F. Hart	2025
F. J. Palmer	2375	L. F. F. Winslow	2016
O. Challis	2360	H. H. Norman	1971
H. Simson	2316	A. Chopping	1935
T. G. N. Stokes	2282	J. J. W. Prescott	1930
S. G. Butler	2151	O. W. A. Elsner	1925
G. H. Irvine	2140	A. L. A. Webb	1914
W. A. Woodside	2133	E. E. Ellery	1899
W. R. Blackwell	2109	H. M. Nicholls	1846

INDIAN MEDICAL SERVICE.

The following candidates for Her Majesty's Indian Medical Service were successful at the competitive examination held in London on Feb. 3rd, 1899:—

Names.	Marks.	Names	Marks.
C. Dykes	3457	A. B. Fry	2708
W. E. McKechnie	3276	E. C. G. Maddock	2685
E. D. W. Greig	3275	A. W. Tuke	2682
D. McCay	3119	F. C. Lewis	2574
J. J. Urwin	3069	M. W. Manuk	2552
W. F. Harvey	3037	W. H. Tucker	2432
H. D. Peile	2990	C. S. Lowson	2390
W. C. H. Forster	2949	J. H. L. Beaman	2369
D. H. F. Cowin	2927	W. H. Dickinson	2295

INCREASE OF THE NAVAL MEDICAL DEPARTMENT.

The *Army and Navy Gazette* of Feb. 11th announces that the Naval Medical Department is to be largely increased in consequence of the additional requirements of an increased fleet. 50 officers are to be added progressively to the list, including nine of the senior grades. The establishments on the Mediterranean and China stations may, our service contemporary thinks, be afforded a larger professional staff. In connexion with this subject of the increase which has been made to the strength of the British navy of late years it may be mentioned that great activity has been and is still being displayed by the French at Toulon in the arming of ironclads and the construction of cruisers and torpedo-boats. It is therefore probable that, under these circumstances, the strength of the British fleet in the Mediterranean will not, at any rate, be decreased.

THE FINANCES OF INDIA.

Notwithstanding the very trying circumstances to which our Indian Empire has been exposed and under which it has been labouring of late years—namely, plague, famine, and a big war on the frontier—the finances of the country are sound and a considerable surplus may, we learn, be expected in the forthcoming Indian Budget. The Military and Public Works Departments have large unexpected balances from their estimated cost and the railways are stated to have done remarkably well during the year. Money, it may be said, measures everything; and while the state of the Indian exchequer speaks well for the way in which that country is administered it holds out the hope that progress may continue to be made in the improvement of the public health and the prosecution of sanitary works in India.

THE TRANSPORT OF SICK SOLDIERS.

A correspondent in the *Morning Post* of Feb. 14th severely takes to task the Army Medical Service for incompetency in dealing with sick troops and in particular characterises the medical arrangements made for the Salisbury Plain manœuvres as "mediæval in type." We are quite aware of the fact that there are many matters connected with the Army medical arrangements that stand in need of reform, but it is the War Office who are to blame and not the Medical Department, who are hampered by it. We do not fear that the public will be misled by the invective of our contemporary's correspondent who takes shelter under anonymity, but it is only fair to the Army Medical Service that we should call attention to the matter.

HONORARY SURGEONS TO THE VICEROY OF INDIA.

Surgeon-General R. Harvey, C.B., D.S.O., I.M.S., Surgeon-General W. S. M. Price, A.M.S., Colonel D. O'C. Raye, I.M.S., Colonel D. Sinclair, C.S.I., I.M.S., Colonel W. P. Warburton, C.S.I., I.M.S., Lieutenant-Colonel G. D. Bourke, R.A.M.C., Lieutenant-Colonel A. J. Willcocks, I.M.S., and Lieutenant-Colonel P. H. Browne, C.I.E., I.M.S., have been appointed honorary surgeons to the Viceroy of India.

Correspondence.

"Audi alteram partem."

"REGINA v. REICHARDT."

To the Editors of THE LANCET.

SIRS,—I will not take up your space by discussing with Mr. Sers "what constitutes insanity." My intention was to point out that, admitting the poor lady who drowned herself to have been temporarily insane, the Lunacy Act was, I suppose, framed that the insane might have every possible advantage in helping them to *recover.* But if every case of temporary insanity treated away from home must be put under certificates before it is treated because this is the law, then for hundreds of cases, thousands of cases, not the best for, but the very worst against, their recovery is done. The rigid letter of the law may say you must do this or that, but you cannot *treat* disease by Act of Parliament, and in the *administration* of the Act considerable latitude ought to be allowed in adapting it to the treatment of disease. I cannot conceive how, when three qualified men of good reputation have separately decided that A or B is not a case to be placed under certificate, the law can step in and say it is. It is an attempt on the part of the law to go beyond its domain and to treat disease, and that attempt ought to be resisted in all just cases. I trust that the endeavour to improve the Act in this respect that Dr. Rayner speaks of may soon be an accomplished fact, for a prosecution such as that of Regina v. Reichardt seems to me a positive scandal, although I am of course quite ready to admit that the Commissioners only acted as they considered their duty compelled them.

I am, Sirs, yours faithfully,
DR. JAMES F. GOODHART.

Feb. 14th, 1899.

THE SURGICAL AID SOCIETY AND ITS METHODS.

To the Editors of THE LANCET.

SIRS,—Most surgeons are under the impression that this body has for its object the providing of surgical apparatus to the poor, chiefly hospital patients, on the recommendation or certificate of a surgeon only as stated in their advertisements.

The following incident which has recently occurred and which I am led to believe is not an isolated case shows how grievously their confidence may be misplaced and requires an explanation from the society. A little child, under my care at the Children's Hospital, Shadwell, was recommended by me to get an apparatus and the requisite number of letters was collected. A lady interested in the child's welfare and who originally asked me to see her took her up to Salisbury-square and was there told by an elderly official that the doctor had ordered quite the wrong thing. She was advised to see another surgeon and sent away with a printed paper bearing the name of a surgeon to the National Orthopædic Hospital, Great Portland-street, with the cheering prospect of getting much more efficient treatment. Fortunately she refused to be cajoled by any such seductive offer and returned to me with the document. The first question I would ask is—Does the society or does it not provide apparatus as they state on the recommendation of any surgeon? If they do not then let the profession openly know that it is provided only subject to the approval of a specialist. What is absolutely indefensible is the flagrant attempt to divert patients from one surgeon to another, to say nothing of destroying the patient's confidence by the delicate suggestion of his incompetence. As this is a matter of great importance to hospital surgeons I trust you may find space for it in your valuable journal.

I am, Sirs, yours faithfully,
HY. BETHAM ROBINSON.
Upper Wimpole-street, W., Feb. 13th, 1899.

MEDICAL AID ASSOCIATIONS.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me to ask your readers for copies of reports of medical aid associations?

I am, Sirs, yours faithfully,
T. GARRETT HORDER.
32, Windsor-place, Cardiff, Feb 7th, 1899.

INSTRUCTION IN ANÆSTHETICS.

To the Editors of THE LANCET.

SIRS,—Is it not high time that the administration of anæsthetics was systematically taught in our medical schools? At present a medical man as soon as he is qualified is supposed to be able to administer anæsthetics, although he has probably never received systematic instruction in this subject. This is not fair either to the medical man or to the patient I should like to offer the following suggestions: 1. There should be attached to all hospitals in connexion with medical schools an honorary anæsthetist who should rank with the visiting staff and who should instruct the medical students, both practically and by lectures, in the administration of anæsthetics. 2. The General Medical Council should make this instruction compulsory. 3. No hospital should appoint as resident anyone who had not received such instruction.

I am, Sirs, yours faithfully,
Leeds, Feb. 7th, 1899. CHARLES POWELL WHITE.

THE DUTY OF THE PUBLIC VACCINATOR.

To the Editors of THE LANCET.

SIRS,—The public vaccinator of the —— district appears to be sending out notices to the parents of unvaccinated children *irrespective of their position*, stating that he intends to call on a certain date to "offer to vaccinate" their child. This is followed in due course by the visit and a threat that the visit will be repeated at intervals until the vaccination is permitted. At least, this was done to one of my patients, the vaccination of whose child was postponed by me on account of sickness. I consider the action of the public vaccinator, to say the least, ungentlemanly and presumptuous and I can assure him, firstly, that the child in question will not be vaccinated until I consider it in a proper state of health, and secondly, that when the child is vaccinated it will not be by the public vaccinator of ——.

But what I desire to ask you, Sirs, is whether this procedure is sanctioned by the Local Government Board. I may add that the father of the child is in a lucrative business, has never had any children vaccinated at the expense of the ratepayers, and was greatly astonished at the public vaccinator's visit. I enclose the notice sent.

I am, Sirs, your obedient servant,
Feb. 12th, 1899. L.R.C.P., M.R.C.S.

THE NEW VACCINATION ACT: "COMFORT" FROM THE LOCAL GOVERNMENT BOARD.

To the Editors of THE LANCET.

SIRS,—Early in December I asked my guardians to come to an agreement *re* the new vaccination fees. Their reply was a notification of a "resolution" (received on Dec. 31st) that they would pay the minimum fees. I then put it to the Local Government Board that the fault was not mine that no agreement had been arrived at and asked whether, if I refused the guardians' fees, the guardians could summarily dismiss me. I also asked whether a mere "resolution" of the guardians constituted an "agreement" as required by Article 4 of the General Order. The Local Government Board replies are as follows (taking the last question first): "*A resolution of the guardians does not constitute an 'agreement.'*" One would think from this that the Local Government Board would at once itself determine the fees to be paid in accordance with its own "General Order." But not so. I am informed that notwithstanding the neglect of the guardians to carry out the Order it is still within their power to terminate my contract should I fail to comply with their "resolution." The "comforting" part then comes: that in the event of the guardians dismissing me I shall be entitled to payment for work done *up to the time of the expiration of my notice to quit.*

When it is remembered that the *vaccination officer* cannot be dismissed by the guardians a feeling of surprise creeps over me.

I am, Sirs, yours faithfully,
Feb. 8th, 1899. X.

"THE EXPERIENCES OF A PUBLIC VACCINATOR."

To the Editors of THE LANCET.

SIRS,—I am with many of my fellow public vaccinators quite able to confirm the statement of your correspondent as to the large amount of work and the small profit attendant on that work undertaken by him in his duties under this new Vaccination Act. But what he leaves unsaid is the loss of self-respect and mental *degradation incurred* in performing these duties. It is bad enough in the slums where one hears oneself announced as "a bloke as wants to vaccinate the babby" and a dirty slut, called the lady, comes down and declines one's offer in choice slang meant to be as offensive as can be produced; it is still worse at the villa where the maid leaves one on the steps while she puts the chain up and goes to consult her missus. After hearing interjections such as "The idea!" "What next!" the girl returns with "Please missus says she isn't at home; she doesn't intend to have it done at all, and it shall be done by her own doctor." In the cloud of one's mind caused by all these contradictions one finds oneself outside and to seek the interior of one's brougham to carry one to fresh insults. Two contiguous houses were of one mind not to open the door to me, and though I could feel the vibration of people moving about and my coachman could see the inmates through the glass above the door ascending and descending no response was made to my four visits on four separate weeks, and the only effect obtained was to produce merriment in the neighbours who looked and grinned at their windows. Cannot a new *modus vivendi et operandi* be agreed upon? Cannot the vaccination officer first obtain consent of these people and then carry the names of these consenting ones to the public vaccinator and so spare him so much fruitless toil, or cannot vaccination stations be restored where he may only meet those who wish for his services? This present domiciliary work cannot continue if worked on its present lines.

I am, Sirs, yours faithfully,

Feb. 11th, 1899. "P. V."

THE NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION AND OTHER FORMS OF TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—The press, both medical and non-medical, has welcomed with considerable cordiality the formation of this society and, as far as I am aware, nothing but goodwill has been exhibited towards it by the medical profession. It should prove a success.

Whilst sympathising deeply with the objects of the Association and wishing a happy issue to its endeavours to prevent tuberculosis of all kinds, may I be permitted to point out one or two things in connexion with it which are in my opinion open to criticism? In the first place, on looking over the list of names of the gentlemen forming the organising committee one cannot but be struck with its want of representative character and this becomes more evident when one subjects the list to more careful analysis. One finds, for example, that of the special hospitals in the metropolis for the treatment of consumption, of which there are five with about 60 physicians in their service, only one has any representation upon the said committee, by a consulting physician and a junior physician; the others are totally unrepresented. Again, of the general hospitals in London, the four largest, for example, as far as I can make out, do not contribute any names to the list. Thirdly, the provincial hospitals for consumption, such as Bournemouth, Torquay, Ventnor, and the like have only one representative; Edinburgh and Belfast none.

As a matter of curiosity I have tried to find in the Medical Directory which of the 21 members of the committee are or have been connected with special hospitals for consumption in this country but have only succeeded in the case of five or six. Do not think that I have anything whatever to say against the names on the committee except that they are to some extent unrepresentative, or yet that it is my wish to demonstrate that those who have had practical experience in *treating* consumption on a large scale are any more able to help in the *prevention* of the disease than those who are not. All I desire to indicate is that it might have been more satisfactory if the representative principle had been taken into consideration when the committee was formed. I am afraid that this cannot now be rectified, as the *addition of further* names would only accentuate their absence in the first instance.

The other point to which I think exception may be taken is the advertisement of the Association by detailed reports of meetings held under its auspices in the lay press. This, I think, has two disadvantages—that statements divorced from their context are often made specially prominent by the reporters or editors who, of course, cannot be expected to take much interest in medical subjects except so far as they may be readable by their clients, and that certain statements are sometimes distinctly misleading. Thus some weeks ago I saw in one of the daily papers a statement with reference to heredity as predisposing to consumption (based upon some remark of a speaker at one of the tuberculosis-prevention meetings in the country) which might prove very mischievous. Another disadvantage in connexion with such a method of pushing the interests of the society, is that it is open to the suspicion of being a bid on the part of the prominent organisers of such meetings for publicity or public favour. We are fully aware that this is not the case, but it is certainly a fact that the names of the speakers at such public meetings *do* "catch on" with the general public when prominently brought into notice by the daily press.

I am aware that answer might be made that it is publicity which is wanted to make the work of the Association effective and this is perfectly true. Publicity certainly for the excellent aims and objects of the association, but publicity for these alone.

I am, Sirs, yours faithfully,

AN ONLOOKER.

Feb. 6th, 1899.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague Commission.—The Nature of the Evidence.—The Progress of the Epidemic.—More Curative Serum.

AT the second sitting of the Plague Commission at Lahore Captain Wilkinson was examined. He cited one instance to show that clothes appeared to be the medium of infection apart from the person. In one village he recorded that the victims were rats only, whilst no human being was attacked. He knew of no positive proof that rats communicated the disease to human beings. At the last sitting Major Skinner gave evidence. He still disputed the theory that the cases in the Shropshire regiment in Barrackpore and Howrah were cases of real plague, but while he detailed certain symptoms and the results of his microscopic examinations his arguments were not conclusive.

The Plague Commission commenced to take evidence at Karachi on Jan. 23rd. Mr. Giles, the acting Commissioner for Sind, was examined and detailed the history of plague in Karachi and the measures which had been taken. He expressed his opinions on certain means by which he thought plague was spread, but no scientific evidence of these means was given. Similar opinions have been expressed at other places, but being wholly unaccompanied by any evidence of scientific value they remain merely the individual opinions of their exponents. Lieutenant-Colonel McCloghry, the civil surgeon, attributed the second outbreak to the migration of rats and to people moving from the infected to the uninfected quarters. Contagion was due more to rats than to human agency. He thought that rats generally contaminated the dwellings with their excreta. He cited a case where human agency was perfectly excluded, tending to show that contagion was entirely due to dead rats. Other witnesses, military and civilian, were also examined and their opinions were expressed in detail upon the value of disinfection and other sanitary measures. Similar evidence has been taken at other places. Why time and money are wasted in getting such evidence as this seems to me to be incomprehensible. Their opinions are *only opinions* and are not sufficiently supported by facts. Protests have been uttered against the examination of a hakim (a native quack doctor) upon his experiences of plague in Garhshanker. He was allowed to give his views freely on many medical questions, but his evidence was of no real value. To recognise such men—to let it be known all over the country that a scientific board of savants is apparently seeking their opinions—is to mislead the lowest and most uneducated classes of the native communities. It gives these men a status at once and therefore degrades the *men* who have qualified after training in the Indian universities. If qualified native practitioners were not available as witnesses hospital assistants who have had medical training might have been summoned. It is advisable to compel the hakims *and* vaids under pain of penalty to *report all cases of infectious disease*, and in the absence of a Medical Act and any system of medical registration this does not add *to* their status, but to accept their medical evidence is liable to misinterpretation and should be done with caution.

The mortality from all causes in Bombay city during the past week was 1449, as against 1239 in the week preceding—an increase of 210. The *average* weekly mortality for Bombay is about 500, so that over 900 deaths have to be accounted for. Out of this only 456 deaths from plague have been recorded and as there is no other epidemic to account for the increased mortality this shows *how* absurdly inaccurate the returns are. The Presidency plague returns taken on a whole are more favourable, although 343 villages still remain infected. Last week 360 were declared to be infected. Another source of confusion exists in the different dates to which the returns are compiled. The Presidency returns are made up from Friday to Friday, the local hospital reports run from Saturday to Saturday, and the municipal health officers returns go from Tuesday to Tuesday. The weekly returns are consequently all different.

Notwithstanding the great increase of deaths from plague in Bombay city inoculation is proceeding very *slowly*. Only 388 inoculations appear to have been done for the week ending Jan. 20th and these chiefly among low caste Hindus. Last year when the authorities *could* have offered inoculation in place of detention and segregation they had a powerful means of encouraging this form of protection. Now that detention and passes have been abolished and the plague regulations do not frighten the people there is no leverage of assistance which can be given to inoculation. In Bombay large numbers of practitioners have been appointed to perform inoculation free of charge. In the Mofussil a charge of two annas was made—it then appeared a privilege—and the people flocked in thousands to be inoculated.

I understand that in addition to the supply of serum shortly to be made available from the animals which have been prepared during the past few months after the manner of Lustig there has arrived a new supply of curative serum from Paris prepared by a different process. The cases admitted into the Municipal Fever Hospital are reported to be of a very virulent type so that the present seems a particularly favourable time to test the value of any new methods. I must again caution the profession against accepting any future statistics unless they have been based on consecutive admissions to hospital.

Jan. 25th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Liverpool Northern Hospital.

DURING the year 1898 there were attended to at the Liverpool Northern Hospital 1530 in-patients and 7466 out-patients, involving 23,414 attendances. The ordinary expenditure was £7284 7*s.* 10*d.*, being a slight decrease on the expenditure of the previous year. There is a balance of £2925 2*s* 8*d.* due to the bankers of the hospital. The receipts from all sources (including £1560 from the Hospital Sunday and Saturday Fund and £1819 16*s.* 3*d.* from subscriptions) amounted to £5528 13*s.* 11*d.* The financial condition of the charity is the subject of anxious consideration to the treasurer in view of the approaching completion of the new building, which, it is needless to say, will involve a large outlay.

Liverpool Select Vestry: the Proposed New Workhouse Hospital: Conference on Tuberculosis.

The special sub committee appointed by the Liverpool Select Vestry to consider the plans for the proposed new hospital at Highfield reported that the estimated total cost of the building and equipment was £105,353. The price of the land was £10,000. Accommodation would be provided in the new hospital for 280 infirm poor who were now located in the attic wards of the Brownlow Hill Workhouse which had been condemned by the Local Government Board for obvious reasons. The difficulties in removing the inmates of these wards in case of fire would be very great and the subject had been a matter of friction between the Select Vestry and the Local Government Board for the last ten years. The cost worked out to £210 per bed, which does not appear to be extravagant. The three poor-law authorities comprising the Select Vestry, the West Derby Board of Guardians, and the Toxteth Board of Guardians have agreed to meet together to consider the desirability of joint action in regard to the new method of treatment of patients in the workhouse hospitals suffering from tuberculosis, of whom there are about 80 in Brownlow Hill Workhouse. West Derby has rather less and Toxteth has a still smaller number. It is hoped that through the conference some uniform arrangement will be arrived at for the treatment of tuberculosis in the incipient stage, and the prevention of infection in others.

Donations to Hospitals.

The late Mr. William Taylor of Southport has bequeathed £500 to the St. Paul's Eye Hospital, Liverpool. Mr. Samuel Smith, M.P., has given £100 to the Children's Infirmary, Liverpool, and also £100 to the New Central Hospital at Liscard, in memory of his son, Mr. James Gordon Smith, who died recently from typhoid fever.

Workmen's Compensation Act: House Surgeon's Fees.

The committee of the representatives of the Liverpool hospitals appointed to consider the question of fees for certificates given by house surgeons under the provisions of the Workmen's Compensation Act have recommended that house surgeons be entitled to charge one guinea for each report to insurance companies and employers of labour.

Treatment of Tropical Diseases.

At the annual meeting of the Royal Southern Hospital, held at the town hall on Feb. 13th, the Lord Mayor who presided said that it was one of the first obligations of the port to relieve the sufferings of patients who had contracted disease in West Africa, especially in connexion with the trade and commerce of Liverpool, and that the Royal Southern Hospital had been selected for this purpose. Mr. William Adamson (the President) afterwards stated that last year Mr. A. L. Jones, a member of the hospital committee, generously offered £350 towards the establishment of a school for the study of tropical diseases; a large ward has been appropriated for the reception of such diseases, an experienced clinical demonstrator has been appointed, and advertisements have been issued for a lecturer. The school expenses will be administered by an independent committee and from a separate fund.

Feb. 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Glasgow University.

IT has been determined to take steps to promote the establishment of a permanent memorial of the late Professor Coats and of his valued work and influence in the University. The committee which has been appointed to secure this end includes the names of the Very Reverend Principal Storey, Sir William Gairdner, K.C.B., Dr. James Finlayson, Dr. Lindsay Steven, Dr. Donald Fraser, and Dr. David Newman (honorary secretary).—At a meeting of the University Court on Feb. 9th it was announced that the late Mr. William Gardiner, M.D. Glasg., of Ashton-under-Lyne had bequeathed to the University the sum of £1000 for the purpose of founding a bursary in the Faculty of Medicine.—At the same meeting Sir William Gairdner intimated his desire to resign his position on the Board of Curators, in whom the patronage of the chair of Pathology is vested, and Professor McKendrick was appointed in his place.—The names of two more gentlemen are mentioned in connexion with the vacant assessorship of the University Court—viz., those of Sir James Bell and Mr. W. R. Copland, C.E. Sir James Bell was formerly member of the Court in virtue of his position as Lord Provost of the city and Mr. Copland has for some years been convener of the business committee of the University Council.

Aberdeen Sick Children's Hospital.

The number of cases treated in the wards of the Aberdeen Royal Hospital for Sick Children in 1898 was 889, the average duration of treatment was 32·1 days, and the average number of beds occupied daily was 80·8. The ordinary revenue was over £3572, the average annual expenditure per bed occupied was £43 2*s.* 5½*d.*, and the average daily expenditure per patient was 2*s.* 4·351*d.* The ordinary income amounted to more than £2093, and the extraordinary income (including legacies, donations to building fund, contribution from Queen's Diamond Jubilee Fund, and proceeds of bazaar) was over £4230. The special fund for the erection of a nurses' and servants' home has been closed. During the summer 48 children were received at the Eidda Convalescent Home, Culter, their stay varying from four to 20 weeks.

Typhus Fever in Aberdeen.

An outbreak of typhus fever has taken place in the Footdee district, Aberdeen, four cases having been removed to hospital during the week ended Feb. 11th. Of late years typhus fever has been almost unknown in the city.

Feb. 15th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Royal College of Physicians of Ireland and Dr. Clifford Allbutt.

AT a special meeting of the Royal College of Physicians of Ireland held on Feb. 14th, 1899, the Honorary Fellowship of the College was conferred on Dr. T. Clifford Allbutt, Regius Professor of Physic in Cambridge University. In admitting the new Honorary Fellow the President *said that in conferring upon Dr. Clifford Allbutt* the highest dignity which it was in their power to bestow the Fellows felt that they were doing honour to themselves, but above all to that ancient College of which they were so proud and the prestige and good name of which they so jealously guarded.

Dublin University.

A meeting of the Senate of the University of Dublin took place on Feb. 14th in the examination hall of Trinity College, for the purpose of conferring degrees. The University Caput—consisting of Mr. Justice Madden (Vice-Chancellor), Rev. Dr. Salmon (Provost), and Mr. Cathcart (senior master non-regent)—presided. The attendance included Fellows and professors of Trinity College, other members of Senate, and a number of ladies who were accommodated with seats on the daïs. Two degrees *honoris causâ* were conferred—one on Dr. Thomas Clifford Allbutt, Regius Professor of Physic in Cambridge University, and the other on Sir Thomas Moffett, formerly President of the Queen's College, Galway.

Irish Medical Association.

The Council of the Irish Medical Association has convened a public meeting of the profession to be held by permission in the Royal College of Surgeons, Dublin, on Thursday, March 2nd, 1899, at 4 o'clock P.M., under the chairmanship of Sir Thornley Stoker, M.D. R.U.I., President of the Association, for the purpose of promoting the reform of the grievances of the Irish Poor-law Medical Service.

The Royal Victoria Eye and Ear Hospital.

The second annual general meeting of the Royal Victoria Eye and Ear Hospital took place on Feb. 14th at the Mansion House, Dublin. The Right Hon. Viscount Monck presided.

Queen's College, Belfast.

At a meeting of the corporate body of Queen's College, Belfast, held in the council chamber on Feb. 10th, for the purpose of considering the present position of the Irish University question (the president occupying the chair) the following resolutions were passed:—

1. That in our opinion the present provision for university education in Ireland is unsatisfactory.
2. That it is desirable that all candidates for university degrees should have attended complete courses of lectures at a recognised college or institution.
3. That in any re-settlement of the university system of Ireland it is essential that in this College provision should be made for the endowment *of new Chairs, especially those required to meet the peculiar* needs of this community, for the appointment of assistants and demonstrators, for additional laboratories, for museums of science, art, and antiquities, for more liberal additions to the library, and for facilities of research. The want of these at present seriously impairs the efficiency and lowers the status of this College as a place of learning and education.
4. That in our opinion the higher education of the North of Ireland would be admirably served by the re-establishment of the old Queen's University on its former broad non-sectarian basis, with such modifica*tions as would meet the altered circumstances of the case*, but with its seat in Belfast and with the provision of an adequate endowment.
5. We are of opinion that in the proposed new Queen's University it is essential to include Chairs of Philosophy and Modern History.
6. That copies of these resolutions be sent to his Excellency the Lord Lieutenant, the Chief Secretary, the Prime Minister, and the Leader of the House of Commons.

The importance of, and the value to be attached to, the above resolutions rest in the fact that they are the unanimous opinion of the professoriate of Queen's College, for at the meeting at which they were discussed every professor was present except two and one of these was unable to attend through indisposition. Further, they are the expression of the views of men who are all actively engaged in teaching and who thus may be regarded as experts. The question of university education is still being very fully discussed and a new turn has been given to the subject by a letter from the Roman Catholic Bishop of Down and Connor who claims that the Roman Catholics of Belfast and of the rest of his diocese must be considered in any settlement of the matter. He points out, as a conspicuous example of their generosity, that they are building at a cost of £50,000 a new hospital—the Mater Infirmorum—which when completed will afford opportunities of clinical instruction for medical students equal to those of any similar institution in the country. Accordingly the Bishop writes that "no reconstruction of the University system of education can be regarded as satisfactory or just which ignores these undoubted claims to equality in the domain of higher education." Although it is evident that there is strong opposition to Mr. Balfour's proposals it is becoming more and more clear that the present state of affairs cannot continue. The resolutions of the Queen's College professors have produced a marked effect among thinking men who naturally ask why do these authorities in educational matters who have tried patiently and faithfully to do their best under the existing *régime* declare that the present provision for university education in Ireland is unsatisfactory. The question—admittedly a difficult one—should be discussed on purely academic grounds and it is a great pity that any other element, political or sectarian, should be introduced.

The Belfast Lunatic Asylum.

From the annual report of Sir G. P. O'Farrell, the Inspector of the Board of Control, I learn that the condition of Purdysburn auxiliary asylum was quite satisfactory. Discussing the problem of how best to provide for the lunatic poor of Belfast, he recommends that provision should be made at Purdysburn for the acute and chronic classes and for the mild classes of insanity now located in the workhouse and he thinks that one portion of the estate at Purdysburn would lend itself admirably to the establishment of a colony for working epileptics. Dr. Walter Smyth has been appointed medical superintendent of County Antrim Asylum. He was formerly second assistant in the Belfast Asylum. Dr. R. A. L. Graham has been selected to fill Dr. Smyth's vacated post. There are now 994 patients on the asylum register.

The Belfast Maternity Hospital.

At the annual meeting of the subscribers of this hospital held on Feb. 7th it was reported that there were 279 intern and 166 extern patients. A committee has been appointed to make the arrangements to raise the necessary money for building a new maternity hospital and an encouraging response has already been given. The new building is to cost £1000. In the interests of the medical school and of the poor of Belfast a new maternity hospital is much needed.

Feb. 15th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Exhibition of 1900 and the Assistance Publique.

THE committee nominated by the Board of Trade to decide as to the admission of exhibitors in Class 112—i.e., the Assistance Publique, private charities and penitentiaries—has sent out a circular to the most important charitable bodies in France asking for their coöperation in the Exhibition of 1900. The programme drawn up by the committee groups together on the one hand charitable works of every kind, such as are both very numerous and as deal with a vast variety of subjects, and in a second group are placed those institutions concerned with penitentiary work. The Class is to be divided into five sections, as follows: (1) general exhibits, historical exhibits, and sundry legislative enactments; (2) protection of children; (3) help for adults in sickness; (4) help for the able-bodied poor, for the blind, and for deaf mutes; and (5) State pawnbroking establishments and penitentiaries. Exhibitors in Class 112 can avail themselves by special permission of the gratuitous use of sites and the administration will defray the cost of show cases, shelves, stands, and other necessaries for exhibits. The railway companies are also allowing reductions for the carriage of exhibits of 25 per cent. for the single journey and 75 per cent. for the return. By Clause 72 Section 3 of the general regulations exhibitors are invited to get together a series of historical exhibits for each section. Suggested subjects for this are the treatment of the sick in hospitals at different epochs, the care of lunatics, of the aged, of infants, together with books, papers, and drawings dealing with such matters. It will thus be seen that this portion of the Exhibition will form a most interesting temporary museum. Collectors desirous to take part in this exhibition should send in a separate application upon a special form stating plainly the description and the value put upon the objects which they lend. The administration will hold itself responsible for exhibits, but only as far as the declared value put upon them by exhibitors in accordance with the terms stated on the admission tickets.

Statistics of Paris Medical Students.

The Paris Faculty of Medicine has published a list of the number of students in medicine who gave in their names for the medical course of the past scholastic year. This is an interesting piece of information for thereby the reader is enabled to form some idea as to the effect of the recently passed university regulations as to fees and the like. It must be remembered that foreigners now only receive a doctor's degree which, although of the same scientific value as that granted to Frenchmen, yet does not permit them to practise in France unless indeed they have undergone the same preliminary examinations as Frenchmen have to pass. It was considered that this regulation would adversely affect the flow of foreign students in medicine. Their numbers, however, have not diminished. On the other hand, it is interesting to see whether the increased severity of the entrance examination has in any way diminished the rush of students into a profession at present greatly overcrowded. The result from this point of view is apparently satisfactory. In 1897 there were 5015 students entered, while in 1898 the number fell to 4495. This diminution is, however, only apparent and arises from the fact that the Faculty has struck off its roll a large number of students whose names were still on the books but who have given up trying to pass the examinations. All those who have entirely discontinued their studies for the past five years have been struck off the roll. Their numbers account exactly for the falling off mentioned above. A proof that the number of students is not falling off is given by the following figures for past years. In 1885 the Faculty examined 3856 students, 5468 in 1891, 6803 in 1893, 8346 in 1894, 8955 in 1896, 8971 in 1897, and 9429 in 1898.

The Medical Department of the Prefecture.

In accordance with a resolution of the Municipal Council passed on Dec. 28th, 1898, dealing with a scheme for the unification of the various Prefectal medical services the Prefect of the Seine has issued an order as follows for the re-organisation of such departments. Paris is divided into 11 districts, every one having its own medical man. A twelfth medical man, with the title of *médecin en chef de la préfecture*, is in charge of the whole with a salary of 6000 francs per annum. The 11 medical men under him are only paid 1200 francs per annum, but they are allowed in addition a commission on the number of visits paid or consultations held. The duties of the 11 medical men who bear the title of *médecin de la préfecture de la Seine* will be to treat patients only at their own homes or, if the patient is able, in the consulting-room. As regards municipal workmen and *octroi* officials the medical men must attend them for as long a period as may be necessary. When the regular medical man is absent through sickness or any other cause his place is to be taken by one of the *médecins adjoints* who are elected by competition. They rank according to the order of their admission and the number of vacancies which occur.

Notes on News.

M. Brouardel has been by an almost unanimous vote of the Professors and Fellows re-appointed Dean of the Paris Faculty of Medicine for a fresh period of three years.

At the meeting of the Academy of Sciences held on Jan. 30th M. Roux, the sub-director of the Pasteur Institute, was elected a titular member of the Section of Rural Economy, in succession to M. Ainé Girard, deceased. M. Roux received 41 votes, as against 14 obtained by M. Risler, the director of the Institute of Agriculture.

The buildings of the new Academy of Medicine have just been begun and the buildings of the Mont-de-Piété, which hitherto have occupied the site, have been pulled down. The plans as put forward by the architect are considered to show that the new Academy will be one of the most beautiful buildings in Paris, but it will hardly be ready by 1900.

Professor Berger, President of Section XVI. of the Exhibition, which is reserved for the class of surgical instruments, is getting together a collection of obsolete and ancient surgical instruments. He has notified various surgeons and instrument makers by circular that they are invited to send to him any examples of such instruments as may be in their possession. Anyone sending an exhibit will receive a free admission ticket for the Exhibition.

Feb. 15th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Treatment of Lupus Erythematosus.

AT a recent meeting of the Vienna Dermatological Society Professor Hans von Hebra showed some cases of Lupus Erythematosus treated by a new and simple method which he has been using for some time with highly satisfactory results. The methods of treating this disease were till now based upon a removal of the diseased tissue either by mechanical or by chemical means. The treatment adopted by Professor Hebra consists in the external application of absolute alcohol to the diseased parts of the skin. A piece of surgical wool soaked in alcohol is placed against the diseased part, avoiding any rubbing of the skin. This procedure is repeated frequently (at least 10 times) daily. The more frequent the application of this wool the better the result. It seems that the beneficial effect of this treatment is due to the action of the cold produced by the evaporation of the alcohol and by the abstraction of water from the tissues. It can be seen that the blood-vessels contract and that the inflamed parts become less red and less swollen. To increase the anti-inflammatory action of the alcohol Professor Hebra adds equal parts of sulphuric ether and spirit of peppermint. He has used this treatment with much success in six cases of lupus erythematosus (five cases of the chronic discoid type and one case of the acute aggravated type of the disease). A case of 25 years' standing improved very much under this treatment. Other medical men who have tried it have also had favourable results.

Cardiac Arrhythmia.

Professor Heitler has made some very interesting observations on the production of arrhythmia of the heart in animals. In the course of a series of experiments performed at the laboratory of Professor Basch in Vienna he observed that by pricking the pericardium of a dog with needles an arrhythmic pulse is produced. When cocaine has been used locally to make the pericardium anæsthetic the mechanical stimulation of this membrane does not produce any change in the heart-beats. In a series of recent experiments Professor Heitler obtained an arrhythmic pulse by brushing the pericardium with croton oil and with sulphuric acid. The arrhythmia so produced disappears after some time, but when the irritant has been injected into the heart-muscle an arrhythmic pulse is produced which does not disappear, because in the latter case the heart-muscle becomes paralysed. By these experiments it is shown that one of the causes of arrhythmia may be a mechanical or chemical irritation of the pericardium and that this kind of arrhythmia may disappear as soon as the irritation has ceased without causing any further disorders of the heart-beats.

Infectious Diseases in Austria.

In the opening days of this year two cases of rabies in the human subject occurred at Trieste and there is an increase in the number of cases of rabies among dogs reported from Dalmatia. Outbreaks of typhoid fever were reported last week from the two Austrian seaports, Pola and Trieste, the disease being ascribed in both towns to infected oysters. At Lieben, a suburb of Prague, 20 cases of typhus exanthemicus occurred at the police barracks with three deaths in the course of last week and two cases of the same disease were notified at Leitmeritz, a town in Northern Bohemia. It must be remarked that the sanitary conditions of Prague as well as of Pola and Trieste are far from being in accordance with modern requirements and that the water-supply in these towns is extremely bad.

Feb 12th.

FREEMASONRY.—*The Rahere Lodge, No. 2546.*—An ordinary meeting of the Lodge was held at Frascati's Restaurant on Feb. 14th, Bro. Burns, W.M., being in the chair. Bro. Roberts was admitted to the third degree in Freemasonry. Bros. Lewis, Kennedy, and Hood were admitted to the second degree. Messrs. E. H. E. Stack and Sydney Cornish were initiated into Freemasonry. A vote of one guinea was made towards the maintenance of "Our Brother's Bed" in the Home for the Dying and Bros. Burns, Izard, and Coventon were respectively appointed stewards to each of the three Masonic charities, a sum of 10 guineas being voted to each list. The brethren afterwards dined together.

Obituary.

THOMAS COOKE, F.R.C.S. ENG., M.D. PARIS.

MR. THOMAS COOKE, the well-known anatomist, died suddenly on Feb. 9th in his fifty-eighth year. He was the only son of John Hawley Cooke and Jane Hawley, daughter of the Hon. Richard Hawley. He commenced his medical studies in Paris, taking his B.A. and B.Sc. in 1862 and his M.D. in 1870. During his career in Paris he held the appointments of house surgeon to the hospitals of Bicêtre, Ste. Eugénie, St. Louis, Lariboisière, and Le Midi. He was demonstrator in anatomy at the École Pratique de la Faculté de Médecine de Paris and was awarded the bronze medal by the Administration de l'Assistance Publique. In 1871 Mr. Cooke took the F.R.C.S. Eng. and in the same year was elected assistant surgeon at the Westminster Hospital, to fill the vacancy caused by an assistant surgeon becoming surgeon. After two more vacancies in the post of surgeon had been filled up Mr. Cooke became senior assistant surgeon. A vacancy for a surgeon occurring in 1875 Mr. Cooke became a candidate but Mr. Macnamara who had been a student of King's College and had recently returned from 20 years' service in India was appointed upon claims which were in many directions stronger. Mr. Cooke had acted as demonstrator of anatomy and when a vacancy occurred in the lectureship of anatomy in the Medical School Mr. Cooke became a candidate, but for reasons into which it would serve no purpose to enter now he was not elected. Mr. Cooke declared, and quite rightly, many years afterwards that the refusal to recognise his just claims compelled him to rely upon his own exertions and to develop his own private school, with which his name is so widely and favourably associated. There was no further vacancy for a surgeon until 1893, when Mr. Bond who was two years junior to Mr. Cooke was appointed, the latter not becoming a candidate; he never applied for any subsequent vacancy. Having served more than seven years Mr. Cooke became surgeon to out-patients. In 1887 an extra assistant surgeon was appointed to see out-patients on Mr. Cooke's days and some years later Mr. Cooke was by special resolution "relieved of all care of in-patients and out-patients." His name continued to appear on the list of the staff without any stated time for attendance.

In 1870 Mr. Cooke founded the widely known London School of Anatomy and Physiology which he conducted up to the time of his death. In the work which he had thus undertaken Mr. Cooke was animated continuously by the earnest desire to "provide students with a knowledge of anatomy derived from individual practical examination of the human body and investigations which the student can himself repeat as opposed to scientific abstractions." Ever at pains to further the progress of his students he endeared himself to them by his kindly manner and ready sympathy with their work, and his loss will be deeply felt by all who have received his valued training. Up to the actual moment of his death he devoted himself to the teaching of human anatomy in the primary sense of the term. Of that which can be seen with the naked eye by cutting up the *dead* body Mr. Cooke became and continued throughout his life the most distinguished exponent in this country. His classes were attended not by the junior students, but by those who, whether they had failed at examinations or not, had already spent the time usually allotted to anatomy at a medical school, but who had not gained the minimum amount of knowledge required. By personal influence he was able to obtain an application to the study of anatomy on the part of those who had failed to study before and to control by discipline men who had not been amenable to that applied at their own school. Both by word and by writing Mr. Cooke was a most enthusiastic advocate of anatomy as learnt by dissecting, and in certain instances individuals did more and better dissecting at his school than they had ever accomplished before, while he gave the greatest impulse to the teaching and learning of anatomy by the aid of dissections previously prepared. From the experience drawn from the class of students with which he was most familiar, he argued on more than one occasion in our columns and elsewhere against the increasing amount of morphological and embryological anatomy taught. He would concentrate the attention of students upon that irreducible *minimum* of anatomy which they must acquire before qualifying for medical practice. This limitation of the subject can continue to justify itself only by being strongly practical. It must be influenced throughout by the surgical and medical practice of the moment, not by that of the past. The teaching which "caused the dry bones to live" in the sixties or the seventies will not do so now unless revised and brought up to date. That irreducible minimum of anatomy which Mr. Cooke so earnestly taught is not sufficient for the practitioner unless the *living* body is constantly referred to by a surgeon engaged in the active practice of surgery. This side of the question was perhaps not quite clear to Mr. Cooke, who had his ideals and was true to them, but whether we agree with his views or not the fact remains that he was a great anatomical teacher.

Mr. Cooke's contributions to medical literature are well known. We may incidentally mention Tablets of Anatomy, Dissectional and Scientific, the latest edition of which occupied his leisure time during the last years of his life; Tablets of Physiology; Aphorisms of Applied Anatomy; Operative Surgery; Dissection Guides; A Plea for Practical Worth in Anatomy; and the Old and New Schools of Anatomy.

In 1870 Mr. Cooke married Aglaé, daughter of the late Jean François, 21st Comte de Hamel de Manin, Knight of the Royal Order of the Legion of Honour, Officer of the Household of Louis XVIII., and of Helen Marian Rhys, daughter of the late Lieutenant-Colonel John Hughes Rhys, J.P., of Killmaenlwyd Hall, and Pembrey Court, Carmarthenshire, by whom he leaves three sons (of whom one is preparing to follow his father in the medical profession) and two daughters (of whom one is a staff nurse at St. Bartholomew's Hospital). Mr. Cooke was a fervent Christian, an ardent enthusiast, and an incessant worker both in his profession and in his daily life, and had undoubtedly undermined his strength. On the morning of his death he delivered a lecture and was demonstrating in the dissecting-room when the fatal seizure took place, so that in the most literal sense he died in harness.

Medical News.

UNIVERSITY OF LONDON.—At examinations held in January the following candidates were successful in the subjects indicated:—

INTERMEDIATE EXAMINATION IN MEDICINE.

Excluding Physiology.

First Division.—Michael Aldy Collins, Guy's Hospital.

Second Division.—Albert Maurice Amsler, St. Bartholomew's Hospital; Alwyn Hewett Bradley, Mason University College; Albert Henry Bygott, Queen's College, Birmingham; William James Davies and Henry Albert Ehrlich, Guy's Hospital; Daniel Cyril Evans, University College, Cardiff; George Evans, Guy's Hospital; Edward Fow Fisher, London Hospital; Bessie Marion Gifford, Royal Free Hospital and Birkbeck Institute; Arthur Claypon Horner Gray, Guy's Hospital; Percival George Harvey, St. Bartholomew's Hospital; Bernard Watson Jones, Mason University College; William Henry Jones, London Hospital; Charles Burnage Penny, Guy's Hospital; Marie Louise Pethick, London School of Medicine and Royal Free Hospital; Herbert Harland Raw, St. Bartholomew's Hospital; Ernest Frederick Reeve and William Morton Robson, Guy's Hospital; Emily Gertrude Stuart, London School of Medicine and Royal Free Hospital; George Orissa Taylor, London Hospital; David Herbert Trall, Guy's Hospital; Arthur Beaumont Waller, London Hospital; Winefred F. Wigglesworth, London School of Medicine and Royal Free Hospital; and Alfred Ernest Freear Wilkes, Queen's Faculty of Medicine, Birmingham.

Physiology only.

First Division.—Hans Frederick William Boeddicker, Mason University College; Adrian Caddy, St. George's Hospital; David Ellis, London Hospital; Ambrose Hilton John, Robert Archer Lloyd, and Ernest Charles Mackay, St. Bartholomew's Hospital; Annie Mooney, London School of Medicine for Women; Sidney James Ormond, Arthur Pearson, and Alan Carpmael Ransford, Guy's Hospital; and Arthur Stanley Woodwark, St. Bartholomew's Hospital.

Second Division.—James Connor Maxwell Bailey, St. Bartholomew's Hospital; Edward Walter Bain, London Hospital; Herbert Cecil Barlow, Westminster Hospital; Francis Joseph Birks, University College, Sheffield; Norman Carpmael, St. Thomas's Hospital; Francis Gerrard H. Cooke, Cooke's London School of Anatomy; John Stansfield Gayner and David Forsyth, Guy's Hospital; Arthur Charles Sydney Balch Green, St. Bartholomew's Hospital; Oswald Haslam, St. Thomas's Hospital; Ernest Thomas Jensen, William Marriott, and Thomas Arnold Matthews, Guy's Hospital; Allan Chilcott Panckridge Panckridge, Middlesex Hospital; Morgan James Parsons, St. Thomas's Hospita and King's College;

Rees, Guy's Hospital; Charles Haldane Denny Robbs and James John Sheat Sersse, St. Bartholomew's Hospital; Douglas Wilberforce Smith, Edinburgh University and Guy's Hospital; James Henry Stormont, Mason University College; and Frederick George Thompson and William Arthur Trumper, St. Mary's Hospital.

PRELIMINARY SCIENTIFIC EXAMINATION.

Entire Examination

First Division.—David Isaacs, University Tutorial College.

Second Division.—Ralph Annesley Fuller, Merchant Venturers' College, Clifton Laboratory, and private study; and George Francis Jones, University College and private study.

Chemistry and Experimental Physics.

†William Bain, private study and Middlesex Hospital; William Henry Barnett, Cranleigh School and University Tutorial College; †Helen Chambers, Newnham College, Cambridge, and private study; †Arthur James Edmonds, Owens College; †Olive Muriel Elgood, Birkbeck Institution; †Kate Knowles, University College, Nottingham, and University Tutorial College; †Cecil Lionel Lakin, Charing-cross Hospital; †Anthony Richard Neligan, St. Bartholomew's Hospital and private tuition; †William Percy Walker, London Hospital; and †Arthur Denham White, St. Bartholomew's Hospital and private study.

Biology.

†Henry Howarth Bashford, London Hospital; †Alice Marian Benham, University Tutorial College; Leonard Christopher Blackstone, University and University Tutorial Colleges; George Percival Charles Claridge, St Mary's Hospital; †William Brown Clark, King's College; †Herbert D. Clementi Smith, St. Paul's School and private tuition; †Helen Mary Collen, University Tutorial College and private study; †Cecil Colmer, London Hospital; Isaac Reginald Cook, University Tutorial College; Robert Higham Cooper, Charing-cross Hospital; †Albert William Duncan Coventon, Trinity College, Cambridge; †David Morgan Davies, University College, Aberystwith, and Charing-cross Hospital; †Percy Albert Stanley Dyson, Guy's Hospital; Armin Gascoigne V. Elder, St. George's Hospital; Aubrey Geo. Clifton Findlay, University College; †Peter Gifford Foulkes, Middlesex Hospital and Birkbeck Institute; Alexander Harold Gifford, King's College; †Arthur Herbert Gregson, Owens College; Edward Coomber Hobbs, Alwyne Institute; †Alfred Bakewell Howitt, Epsom College; Herbert Vawser Humphry, University College and private tuition; †Catherine Mary Ironside, University Tutorial College; †John Jones, Owens College; †Charles Hugh Lathom, St. Thomas's Hospital and University Tutorial College; George Laurence, University College, Liverpool; Marcus Antonius J. Lavis, Epsom and University Tutorial Colleges and Alwyne Institute; John Trywern Lloyd, University College, Liverpool; †Oswald Edward Lord, St Bartholomew's Hospital; †Lytton Pelham Maitland, the Polytechnic, Regent street; George Ernest Peachell, St. Mary's Hospital; †Percy Alfred Peall, Guy's Hospital; Oscar Phillips Napier Pearn, University College, Aberystwith, and University Tutorial College; †Stephen Hugh Pitcairn and †Geoffrey Price, St Thomas's Hospital and University Tutorial College; †Griffith Henry Rees, Camberwell Grammar School and Guy's Hospital; †Charles Michael Roberts, St. Paul's School and St. Thomas's Hospital; Henry Charles Samuel, University College, Cardiff, and University Tutorial College; †Henry Thomas Samuel, Kingsholme School, Weston-super-Mare; †Frederick William Weeks Smith, St. Thomas's Hospital and University Tutorial College; †Annie Broomhall Thin, University Tutorial College; Ernest Frank Travers, St. Bartholomew's Hospital; †Francis Henry Whitehead, St Thomas's Hospital; †Lorton Alexander Wilson, Owens College; and †Edwin Robert Wheeler, Monkton Combe School and King's College.

† These candidates have now completed the examination.

[N B.—The foregoing list, published for the convenience of candidates, is provisional only and is not final until the reports of the examiners shall have been confirmed by the Senate.]

CONJOINT EXAMINATIONS BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS IN IRELAND.—The following gentlemen have passed the examination for the diploma in State Medicine and Public Health:—

Honours Division (in order of merit).—Lieutenant-Colonel W. P. Carson, I.M.S., and J. O. Littlewood, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A.

Pass Division.—E. G. Fenton, F.R.C.S., L.R.C.P. Irel.

FOREIGN UNIVERSITY INTELLIGENCE.—*Cracow*: Dr. Michael von Senkowski has been recognised as *privat-docent* of Forensic Chemistry.—*Leipsic*: the medical clinic will shortly celebrate the centenary of its establishment. Marble statues of Professor Wunderlich and Professor E. Wagner will be erected in the gardens of the St. Jacobs Hospital. Dr. Georg Köster has been recognised as *privat-docent* of Internal Medicine. Dr. Hans Held of the Anatomical Institute has been appointed Extraordinary Professor.—*Prague (German University)*: Dr. Ludwig Knapp has been recognised as *privat-docent* of Gynæcology.—*San Francisco (Cooper Medical College)*. Dr. W. Fitch-Cheney has been appointed to the chair of Medicine and Dr. Rixford and Dr. Stillmann have been appointed Professors of Surgery.

ABERYSTWITH INFIRMARY.—The annual meeting of this institution was held on Feb. 4th under the presidency of Mr. J. G. Bonsall. The report showed that the in-patients numbered 191 and that 1648 out-patients were treated. The financial statement was satisfactory.

BRISTOL MEDICAL DRAMATIC CLUB.—The members of the Bristol Medical Dramatic Club celebrated their twenty-second anniversary by giving performances of Pinero's comedy *Dandy Dick* at All Saints' Hall, Clifton, on the evenings of Feb. 7th, 8th, 9th, and 10th. The entertainment was in aid of the Bristol medical charities.

HEALTH OF BATH.—At the meeting of the Bath Sanitary Committee held on Feb. 7th Dr. W. H. Symons, the medical officer of health, reported that the death-rate of Bath for 1898 was 16·3 per 1000. The zymotic death-rate was 1·43 per 1000. The deaths under one year per 1000 births were 136, compared with 161 in England and Wales.

CLIFTON DISPENSARY.—The annual meeting of this institution was held on Feb. 7th under the presidency of Canon Wallace. The report stated that 3681 patients had been treated during 1898, being a decrease of 400 as compared with the preceding year. The income of the dispensary amounted to £753 and there was a favourable balance of £199.

DIPHTHERIA AT ABERDARE.—At the meeting of the Aberdare Urban District Council held on Feb. 10th the medical officer of health (Mr. David Davies) stated that during the preceding two weeks there had been 143 cases of diphtheria, being an increase of 37 on the previous fortnight, and that 9 deaths had occurred from the disease. Mr. Davies recommended that all the schools should be closed for a month.

TWO PLUCKY MEDICAL MEN.—On Feb. 8th a fire broke out at the Aberdeen Lunatic Asylum. All the patients were with some difficulty removed to a place of safety with the exception of one, a woman, who endeavoured to escape by a barred window. She thrust her head and shoulders through the bars and then found that she could neither go forwards nor backwards. The two medical officers seeing her danger procured a ladder and put it to the window. Dr. W. R. Matthews mounted it while Dr. D. R. Moir held it steady as it gave way. Dr. Matthews reached the window and although the bars were very hot succeeded in wrenching them out, so being enabled to pull the woman through with her hair and clothes on fire. Dr. Matthews's hands were burned by the hot iron.

UNIVERSITY OF CAMBRIDGE.—Dr. G. Sims Woodhead, Director of the Laboratories of the Royal Colleges in London, has been elected to the Professorship of Pathology, vacant by the death of Dr. Kanthack. Mr. J. Stanley Gardiner, M.A., Fellow of Caius College, has been elected Balfour Student in Zoology. Grants from the fund have been made to Mr. J. S. Budgett and Mr. L. A. Borradaile in aid of their zoological researches. Mr. P. T. Main, St. John's, has been appointed an Elector to the chair of Chemistry, Professor Liveing an Elector to the chairs of Physics and of Anatomy, Dr. Vines an Elector to the chair of Botany, Dr. Allbutt an Elector to the Downing chair of Medicine, Dr. A. Macalister an Elector to the chairs of Zoology and of Physiology, Dr. L. Humphry an Elector to the chair of Surgery, Dr. Bradbury an Elector to the chair of Pathology, and Professor Foster an Elector to the chair of Mental Philosophy. Mr. H. E. Durham has been appointed a member of the State Medicine Syndicate. Dr. Ruhemann has been appointed an Examiner in Pharmaceutical Chemistry.

CREDITON BOARD OF GUARDIANS AND MIDWIFERY FEES.—At the Crediton County-court on Feb. 9th Mr. C. H. Haycroft, M.R.C.S. Eng., L.S.A., of Bow, sued the Crediton Board of Guardians for a midwifery fee of half a guinea. Evidence showed that Mr. Haycroft who is a district medical officer of the board on Sept. 14th last received an order from the overseer to attend a woman in her confinement. The solicitor who represented the guardians contended that as the husband was not destitute the board was not liable; the overseer or the husband, he added, might be. His Honour Judge Woodfall in giving judgment for Mr. Haycroft stated that it would be putting on a medical officer an intolerable burden if he had to ascertain the circumstances in which the people were living and had to pause before giving his attendance and institute a cross-examination or some other mode of inquiry to see if the people were destitute. His Honour added that he did not think the Poor-law Act meant that kind of medical relief to be administered in any such grinding spirit. The medical officer was bound to obey the

HERTFORDSHIRE COUNTY ASYLUM, Hill End, St. Albans.—Assistant Medical Officer, unmarried. Salary £130 per annum for the first year, rising to £150 per annum after one year's service, with furnished quarters, board, washing, and attendance.

HUDDERSFIELD INFIRMARY.—Assistant House Surgeon for six months. Salary at the rate of £60 per annum, with board, lodging, and washing.

LEEDS UNION.—Assistant Medical Officer for the Workhouse, Schools, and Infirmary, situate in Beckett-street, Leeds; unmarried. Salary £100 per annum, with board, washing, apartments, and attendance. Subject to statutory deduction. Applications to the Clerk, Poor-law Offices, East Parade, Leeds.

MANCHESTER CHILDREN'S HOSPITAL.—Junior Resident Medical Officer for six months, unmarried. Salary at the rate of £80 a year, with board and lodging. Applications to the Secretary, Dispensary, Gartside-street, Manchester.

MANCHESTER EAR HOSPITAL, 23, Byrom-street.—Clinical Clerkship for a Senior Student for six months. Honorarium 10 guineas.

NORFOLK AND NORWICH HOSPITAL, Norwich.—House Surgeon for two years, unmarried. Salary £80 per annum, with board, lodging, and washing.

PETERBOROUGH INFIRMARY AND DISPENSARY.—Assistant Physician and Assistant Surgeon.

PRESTON ROYAL INFIRMARY.—A Junior and an Assistant Surgeon. Salaries £80 and £50 per annum respectively with board, lodging, washing, &c.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House Surgeon for six months. Board, lodging, and washing provided.

ROYAL HALIFAX INFIRMARY.—Assistant House Surgeon, unmarried. Salary £50 per annum, with an extra allowance of £9 2s. 6d. per annum; also residence, board, and lodging.

ROYAL LONDON OPHTHALMIC HOSPITAL, Moorfields, E.C.—Junior Out-patient Surgical Officer. Salary £50.

SALFORD ROYAL HOSPITAL.—House Surgeon for twelve months. Salary £100 per annum, with board and residence.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN, Marylebone-road, London, N.W.—Anæsthetist. Honorarium, £20 per annum.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, Plymouth.—House Surgeon. Salary £100, with board and residence.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House Surgeon. Salary £30 per annum, with board, lodging, and washing.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Assistant House Surgeon, for six months. Board, lodging in the hospital, and washing provided.

UNIVERSITY COLLEGE, Sheffield.—Demonstrator in the Bacteriology Laboratory. Salary £150.

UNIVERSITY OF GLASGOW.—Chair of Pathology. The normal salary of the Chair is fixed by Ordinance at £1100.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea, S.W.—House Physician, for six months. An honorarium at the rate of £50 per annum given, and board and lodging in the hospital provided.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £60 per annum, with board and residence in the hospital.

WINDSOR ROYAL INFIRMARY.—House Surgeon, unmarried. Salary commencing at £100 per annum, with residence, board, and attendance.

WOLVERHAMPTON AND STAFFORDSHIRE HOSPITAL, Wolverhampton.—Assistant House Surgeon, for six months. An honorarium at the rate of £50 per annum given at the end of that term. Board, lodging, and washing provided.

Births, Marriages, and Deaths.

BIRTHS.

GUILDING.—On Feb. 8th, at Worcester House, Reading, the wife of Lansdowne Murray Guilding, M.B., of a son.

HALDANE.—On Feb. 13th, at Viewforth, Bridge of Allan, N.B., the wife of William Haldane, M.D., F.R.C.P., of a son.

MACMILLAN.—On Feb. 8th, at Monsall Lodge, Prestwich, Lancashire, the wife of David Macmillan, M.D., of a daughter.

SAYRES.—On Feb. 12th, at Woodford, Essex, the wife of A. W. F. Sayres, M.D., of a son.

MARRIAGES.

SHAW—SCHMOCKER.—On Jan. 25th, at the St. Marylebone Registrar's Office, privately, John Shaw, M.D. Lond., M.R.C.P. Lond., of 32, New Cavendish-street, Cavendish-square, W., to Rosa Schmocker of Ringgenberg, near Interlaken, Switzerland.

WOODS—CHALONER-SMITH.—On Feb. 11th, at St. Bartholomew's Church, Dublin, Hugh Woods, M.D., of Highgate, to Tempe, elder surviving daughter of the late John Chaloner-Smith, C.E., of St. Helen's, Bray, co. Wicklow.

WOODYATT—ROWCROFT.—On Feb. 9th, John F. Woodyatt, M.R.C.S., L.R.C.P., of Halifax, Yorkshire, to Violet Isabel, youngest daughter of Major-General G. C. Rowcroft, I.S.C., of Hampden Mount, Caterham Valley.

DEATHS.

CLARKE.—On Jan. 20th, at Bream Down, Morley, Georgina, the beloved wife of Arthur Clarke, L.R.C.P. Lond., M.R.C.S., aged 42 years.

COOKE.—On Feb. 8th, at his residence, Brunswick-square, suddenly, Thomas Cooke, M.D., F.R.C.S. Eng., aged 57.

DICKINSON.—On Jan. 27th, at Westby House, Boscombe, Bournemouth, J. B. Dickinson, M.D., M.R.C.S., late of Stalybridge, in his 71st year.

RANSFORD.—On Feb. 12th, Gifford Ransford, M.D. Durh., of Sussex-square, aged 56.

.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (9.30 A.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.), London Throat (2 P.M.).

TUESDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (22nd).—St. Bartholomew's (1.30 P.M.), University College, (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (23rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.).

FRIDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (25th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (20th).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. S. West: Some of the Clinical Aspects of Granular Kidney. (Lettsomian Lecture.) Lecture II.—Syllabus: Albuminuria in Granular Kidney. Physiological Albuminuria; postural, dietetic, cyclical, intermittent albuminuria. Albuminuria in the apparently healthy. The different forms of albumen, and the value of the different tests used to detect them. The frequency of albuminuria varies at different ages, and has different significance. Two broad groups: 1. From 25 years onwards.—Albuminuria and Granular Kidney increase in frequency *pari passu* with age. Importance of Albuminuria in relation to life insurance. 2. Up to the age of 25 years.—Frequency of Albuminuria in infancy, childhood, at school-age, and in early adolescence; its significance; in no case, strictly speaking, physiological. Albuminuric retinitis, a late sign. Rare in chronic Parenchymatous Nephritis. White patches the earliest change, but preceded by recognisable changes in vessels. Exists long without impairment of vision, but failure often sudden. Of grave significance, for life rarely preserved long after its occurrence. Amblyopia, Detached Retina. Other eye changes dependent on hæmorrhage. (Various tests for albumin will be demonstrated and cases and specimens shown as far as practicable.)

TUESDAY (21st).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—Discussion on Pseudo tuberculosis. To be opened by Dr. G. S. Woodhead, and continued by Prof. S. Martin, Prof. J. MacFadyean, Dr. Washbourn, Dr. Wethered, Mr. Fullerton, and Mr. Pakes. (Illustrated by microscopic and lantern slides.)

CHILDHOOD SOCIETY (Library of the Sanitary Institute, 72, Margaret-street, W.).—8 P.M. Mrs. I. W. Wallis: Mental Hygiene as a Basis for Character Formation.

CHELSEA CLINICAL SOCIETY (Holy Trinity Parish Hall, Pavilion-road, S.W.).—8 P.M. Card Specimens: Dr. Vinrace: Ulcerative Perforation of the Stomach. 8.30 P.M. Papers:—Dr. G. Herschell: Atony and Dilatation of the Stomach.—Dr. Penny: Radical Cure of Hydrocele.

WEDNESDAY (22nd).—DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.).—4.30 P.M. Informal Exhibition of Cases. 5 P.M. Ordinary Meeting.

HUNTERIAN SOCIETY.—8.30 P.M. Mr. C. J. Symonds: The Value of Individual Symptoms in Perforative Peritonitis, more especially in regard to Operation.

FRIDAY (24th).—WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich-road, S.E.).—8.45 P.M. Special General Meeting.

CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Clinical Evening. The following cases will be shown:—Dr. Rolleston: Multiple Periarticular Bursæ.—Dr. F. P. Weber: Recommencement of Muscular Atrophy long after Infantile Paralysis.—Dr. Cahill: Unilateral Hypertrophy of the Female Breast resulting from Pressure.—Dr. Caley: A Case of Tabes Dorsalis with Arthropathy and Pulmonary Fibrosis.—Mr. G. B. Hunt: Rheumatoid Arthritis with enlarged Spleen and Glands in an Infant.—Dr. Washbourn and Mr. W. Arbuthnot Lane: A Patient from whom a Cerebral Tumour was Removed seventeen months ago.—Dr. Mouat-Biggs: Extreme Case of Factitious Urticaria.—Dr. R. Crawfurd: Myositis Ossificans Progressiva.—Dr. L. Guthrie: A Case of Congenital Paralysis.—Dr. StClair Thomson: A Man aged 36 years complaining of Dysphagia found to be affected with Unilateral Paralysis of the Eighth and Bulbar Nerves.—Dr. L. Guthrie: Acute Atrophic Paralysis affecting both Upper Extremities.—Mr. E. W. Roughton: Tumour of Maxilla of Doubtful Nature. Patients will be in attendance at 8 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (20th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Dr. T. G. Brodie: The Chemical Pathology of some Infective Diseases. (Erasmus Wilson Lecture.)

TUESDAY (21st).—WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck st., W.).—4 P.M. Dr. T. D. Savill: On the Slighter Forms of Mental Disorder and how to deal with them.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Mr. Horsley: Surgery of the Nervous System (lantern demonstration).

ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Prof. E. Ray Lankester: The Morphology of the Mollusca.

WEDNESDAY (22nd).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Dr. T. G. Brodie: The Chemical Pathology of some Infective Diseases. (Erasmus Wilson Lecture.)

EVELINA HOSPITAL (Southwark bridge-road, S.E.).—4.30 P.M. Dr. G. Carpenter: Clinical Demonstration on Medical Cases. (Post-Graduate Course).

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Wethered: Difficulties of Diagnosis in Pulmonary Tuberculosis.

THURSDAY (23rd).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. G. V. Poore: The Earth in Relation to the Preservation and Destruction of Contagia. (Milroy Lecture.)

CHARING-CROSS HOSPITAL.—4 P.M. Dr. Galloway: Dermatological Demonstration. (Post-Graduate Class.)

LONDON TEMPERANCE HOSPITAL.—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration to Senior Students.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.—4 P.M. Dr. Barlow: Demonstration of Selected Cases.

ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Dr. A. Macfadyen: Toxins and Antitoxins.

FRIDAY (24th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Dr. T. G. Brodie: The Chemical Pathology of some Infective Diseases. (Erasmus Wilson Lecture.)

ROYAL INSTITUTION OF GREAT BRITAIN.—9 P.M. Prof. O. Lodge: Coherers.

SATURDAY (25th).—ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Right Hon. Lord Rayleigh: The Mechanical Properties of Bodies.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1898, which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in THE LANCET of Jan. 7th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1898 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

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THE CORNISH MADEIRA.

EARLY this month the town-hall of Falmouth was the scene of a meeting of the East Kerrier Rural District Council, *from the deliberations of which body, as reported in the local press, some instructive lessons may be learned. The quoted passages are from the *Western Mercury*. One of the questions before the council was the drainage of Flushing, concerning which a new scheme has been proposed. Mr. Blamey, medical officer of health of the Falmouth Rural and Penryn Urban Districts of Cornwall, in the course of his duties reported a case of typhoid fever occurring at Flushing and pointed out that the house in which the case occurred was a possible source of danger to the community. Two resolutions from a neighbouring parish council were then read, one of which was *to the effect that if the Sanitary Committee* of the East Kerrier District Council went to Flushing and looked at the place for themselves they would not feel justified in sanctioning the expense to be incurred under the drainage scheme, while the other called attention to the language of condemnation which had been used by a clergyman in the vicinity as being detrimental to the village of Flushing as a health resort. At this stage of the proceedings there arose a Mr. J. Cloak of Flushing who appears to have called the clergyman's language "unmannerly, unmanly, and ungentlemanly," thinking that it "would have the undesirable effect of preventing people from coming to the Cornish Madeira." He was followed by a Mr. Dunstan who "had lived in Flushing for nine years and enjoyed the best of health. If a man had a bit of a cold it was put down to typhoid It was typhoid on the brain. According to what 'these reverends' said Flushing was death for anybody ..... it was the biggest falsehood ever put into print to connect a certain woman suffering from typhoid with the eating of oysters taken from the beds at Flushing" As this last expression was a direct imputation of falsehood upon Mr. Blamey and other medical men in the neighbourhood the speaker was ordered to withdraw his words. This he did after much wrangling

This debate forms a good example of the troubles of the medical officers of health in unenlightened districts. The inhabitants of Flushing object to the publication of the sanitary deficiencies of their village. Instead of trying to set their houses in order they attempt to cajole or browbeat responsible persons into silence that they may enjoy the money of the visitor whose health they are prepared to subject to all the risks rife in a place which is (to use Mr. Blamey's words) "riddled with cesspits." The medical officer of health in such cases has to be very firm. He knows that his action is unpopular and may lose him patients, while his official salary in many, nay, most, cases bears no relation to the responsibilities which he has to bear or the duties which he has to discharge and certainly gives him no pecuniary standpoint from which he can afford not to consider on which side his bread is buttered. Does he get proper credit as a rule for his work which is arduous and unselfish? In the case under consideration Mr. Blamey was well supported by the district council and the partisans of a filth *régime* in Flushing have themselves to thank for the publicity which their cesspits have received, but we have before now known the medical officer of health to be left in the cold by those whom he served.

SUGAR-FREE WINES.

To the Editors of THE LANCET.

SIRS,—Being anxious to obtain the above for a diabetic can you or one of your readers inform me if such wines exist, and if they do where they can be obtained?

I am, Sirs, yours faithfully,

Feb. 15th, 1899. *R. S. P.*

THE EFFECT OF TOBACCO ON DEVELOPMENT.

DR. E. STUVERS, President of the Wyoming Scientific College, has given in the American *Quarterly Journal of Inebriety* some surprising statistics illustrative of the effect of tobacco on the development of the young. From measurements of 187 of the class of 1891, Yale, he found that the non smokers gained in weight during the college course 10·4 per cent. more than the regular smokers and 6·6 per cent. more than the occasional smokers In height the non-users of tobacco increased 24 per cent. more than the regular users and 12 per cent more than the occasional. In increase of chest girth the non users had an advantage of 26·7 per cent. and 22 per cent and an increase of lung capacity of 77·5 per cent. and 49 per cent. respectively. These observations with respect to the dwarfing effects of tobacco are confirmed by observations of the class of 1891, Amherst, made by Dr. Edward Hitchcock. He found that in weight non-smokers increased during their course 24 per cent. more than the smokers; in increase in height they surpassed them 37 per cent., in gain of chest 42 per cent., and in gain of lung capacity 75 per cent. We should be sorry to see these statistics quoted as particularly instructive, for the numbers on which they are founded are too small for trustworthy inferences.

THE SALE OF CATHETERS TO THE PUBLIC.

DR. BARELLA, a Belgian provincial practitioner, has recently been speaking pretty strongly at a [illegible] of the [illegible] *de Médecine* on the subject of criminal [illegible] On looking through the vital [illegible] for the last 20 years it is ev[illegible] diminished in proport[illegible]

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The Milroy Lectures

ON

THE EARTH IN RELATION TO THE PRESERVATION AND DESTRUCTION OF CONTAGIA.

Delivered at the Royal College of Physicians of London

BY G. V. POORE, M.D., F.R.C.P. LOND.,
PROFESSOR OF MEDICAL JURISPRUDENCE AND CLINICAL MEDICINE, UNIVERSITY COLLEGE; PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL.

LECTURE I.[1]

Delivered on Feb 23rd, 1899.

EARTH.

MR. PRESIDENT AND GENTLEMEN,—That which we commonly speak of as "earth" is largely composed of excreta and the dead remains of animals and vegetables which, as the result of fresh biological processes, are either returned to the bodies of living vegetable organisms or, after becoming mineralised and soluble, are washed downwards by the rain and ultimately find an exit in the sea. It is obvious that not only does "earth" vary in composition with the varying conditions of subsoil, climate, flora and fauna, but that "earth" must undergo *seasonal variations* necessitated by the vigorous upgrowth in the spring or the decay of the fall—the heat and drought of summer or the flood and frost of winter. The interstices between the particles of "earth" are filled at one time with air, at another time with water, and the line of demarcation between earth and air on the one hand and earth and water on the other is often not very definite. Again, the dust which is suspended in the air and which *settles on everything is liable to contain infective* particles, harmless to breathe but dangerous if they fall upon a wound. It is obvious that such particles may be regarded as belonging to the earth or the air. *Some of them* doubtless emanate from the earth, having been raised as dust; but we must admit that there may be organisms which grow in the air, live in the air, and die in the air without ever touching earth or water and which elude all attempts at identification or artificial cultivation. While there are organisms which may live indifferently in air or water others are probably more exclusive in their obligatory conditions. The mutual interaction of earth, air, and water must never be lost sight of. It is the life in the earth, both vegetable and animal, which helps by its influence on vegetation to maintain the quality of the atmosphere. Again, it is the earth which gives the quality to spring and river water. Pure water is a body of definite chemical composition and pure air is a tolerably definite mixture of gases, and it is not difficult to approximately measure the degree of pollution of either. The chemical composition of earth, on the other hand, is complex and constantly changing and it is not possible for the chemist to fix any standard of quality. The practical agriculturist by the aid of touch, smell, and vision will say at once whether any given sample of earth is foul or pure, sour or sweet, rich or poor, fertile or sterile, and we must perforce content ourselves with the terms used by the practical man. The word "earth" in the ensuing lectures will usually be regarded as meaning humus in a healthy condition.

PATHOGENIC SAPROPHYTES.

There are certain pathogenic organisms which are constantly found in the earth and which appear to be ubiquitous. They adhere to *our skins and* clothing, get under the nails, and lodge in the hair. They produce various diseases of wounds and wounded persons and we now recognise that in the absence of *those precautions* which we call "antiseptic" it is never safe to inflict even the smallest wound. The modern surgeon not only renders his hands and instruments aseptic but he operates in *spotless* garments and endeavours to have an operating-room as clean and free from dust as possible. The organisms which produce the various wound infections are saprophytes which flourish external to the body. They are ubiquitous and (probably) necessary and so long as we have a whole skin and uninjured *mucous membrane they do us no harm. As all organic* matter is constantly circulating, passing through death to other forms of life and necessarily undergoing humification as *it does so, it follows that* the agents of these changes, the microbes which are to this end hatched in the soil, vary with the circumstances. Houston[2] gives the estimated number of microbes per gramme found in 21 samples of soil. These vary from 8326 in a virgin sand and 475,282 in a virgin peat to 115,014,492 in the soil from the trench of a sewage farm. Broadly speaking, the microbes bear a proportion to the amount of dung. Warington estimated that a gramme of dung from a cow fed on hay contained 165,000,000. They all, presumably, have their optimum conditions—chemical and physical qualities of the nutritive medium, access of air or other gases, lightness or darkness and temperature—and when the optimum conditions concur growth and multiplication go forward at a pace which we can *hardly* appreciate. The *fact that for the growth of* some the access of air is necessary while others obtain their oxygen from the medium in which they grow and others *again are able to take in oxygen from either source has* formed the basis of a classification which has assisted our *understanding. Saprophytes, including those which produce* wound infection, are presumably of service in bringing about the decomposition of complex organic bodies. Whether we are able to check the growth and multiplication of these facultative parasites outside the body is doubtful and whether or no we should be gainers or losers by so doing is still more doubtful. Bacteriologists have experienced no little difficulty in discovering the exact conditions which are necessary for the growth and development of many of the micro-organisms which have been studied. Some are more exacting than others and those which are best able to accommodate themselves to varying circumstances naturally obtain the mastery when several are attempting to grow simultaneously in the same medium. Some of the larger saprophytes, such, for instance, as the common mushroom, require *no little skill for* their artificial production. Their cultivation requires far more attention to exact details than is necessary with ordinary green-leaved garden plants. We *know that for a few weeks* in the autumn *they may* appear in great numbers in dry pastures where horses have been fed, provided the conditions of the air as to temperature, light, and moisture *be favourable, and we also know that directly* the necessary conditions fail the mushroom harvest is at an end. We also know how strange is the predilection of certain fungi *for the dung of particular animals* and *I would* allude to a list furnished to me by Mr. George Murray, F.R.S., which shows that the optimum conditions for the growth and development *of these short-lived and delicate* organisms must be marvellously subtle and probably quite beyond the ken of the chemist.

I will now proceed to deal seriatim with some of the contagia which are best understood and will begin with

TETANUS.

Among the ubiquitous organisms which are habitually found in earth is the bacillus of tetanus. It is said to be present in almost all rich garden soils and that the presence of horse-dung favours its occurrence. It is strictly anaerobic and has been artificially cultivated by Kitasato in an atmosphere of hydrogen. It forms spores and grows best at a blood heat. Marchesi has found it at a depth of two metres but no lower. The pure cultivation of the bacillus which has a disagreeable aromatic odour is often not very virulent. It is fatal to animals as well as man and among animals the horse appears to be most liable to be attacked. Infection always takes place by inoculation through the wounded skin or mucous membrane—never, it is believed, through the healthy alimentary or respiratory tracts. Cases of "idiopathic" tetanus are reported, but it has fallen to the lot of few of us to see a case and professional opinion seems to lean to the idea that in such cases the inoculating wound has been overlooked. The toxin which the bacillus brews locally in the wound is toxic to the central nervous system and the antitoxin to be effectual must, it is said, be injected subdurally into the central nervous system. The exhaustion of the nervous system seems to increase its vulnerability which is, perhaps, the reason why tetanus has been relatively common in the domain of military surgery. There seems to be no doubt as to the ubiquity of the tetanus germ. Every child who falls on the ground and gets an abrasion of the skin, all tillers of the soil who get accidental wounds in the course of duty, and every horse which "breaks its knees" by falling in the London streets, runs, potentially, a risk of inoculation with tetanus. In the face of the ubiquity of the cause the rarity of the disease is remarkable. I have made inquiry of many practitioners in the Thames Valley where market gardening is the chief industry and where countless tons of London horsedung are spread upon the land and learn from them that tetanus is in their experience the rarest of diseases. Seeing that the bacillus is so strictly anaerobic one is justified in supposing that the tillage of the soil which brings it in contact with air and sunshine must be unfavourable for its growth and virulence. The bacilli must die out under such conditions and the inoculation of the spores alone is said by Vailliard, Rouget, and Vincent to be incapable of setting up tetanus. If the bacillus or the spore be carried in dust, or if they be washed into the water and drunk we have no evidence that any harm results therefrom. In common with some other microbial diseases tetanus is more virulent in the tropics than in temperate climates. Friedberger and Frohner state that it is so common among horses in St. Domingo, especially after the operation of castration, that geldings are worth twice as much as stallions.

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[1] *Lectures II. and III. will be delivered on Feb. 28th and March 2nd, 1899, respectively.*

[2] Local Government Board Report, 1897-98.

The statement made by Ledantec and H. M. Stanley that the natives of the New Hebrides and Central Africa are in the habit of poisoning their arrows by smearing them with mud (obtained in the New Hebrides from a mangrove swamp) gives emphasis to the importance of a tropical temperature and the absence of tillage as factors which make for increase of virulence of the tetanus bacillus and other organisms found in earth. Pus from the wound of an animal suffering from tetanus is capable of conveying the disease and perhaps it is due to this fact that certain stables and pastures have at times acquired an evil reputation in respect of tetanus. Captain Hayes, F.R.C.V.S., is of opinion that wounds in the hoof as the result of careless shoeing are a great cause of what may look like idiopathic tetanus in horses. In an article by Mr. Sidney Villar in the *Journal of Comparative Pathology and Therapeutics* for December, 1897, an observation by Mr. Joseph Woodger is quoted to the effect that tetanus is particularly common among horses used in dust-carts and Mr. Villar continues: "In my own practice in Middlesex there are two farms where the disease is specially prevalent. One of these at Alfreton is occupied by a farmer who habitually spreads on his fields large quantities of London refuse; at the second farm, five miles away, the bailiff brought two large loads of the sweepings of London roads in 1893 and dressed his home meadows with it. On these meadows his colts and young stock were pastured and for two and a half years tetanus was endemic on his farm; during this period six colts became affected and I believe only one entirely escaped the disease."

This experience of Mr. Villar seems to point to the danger of placing upon grazing land material which is probably mixed with broken glass or crockery. On clay lands such as are common in the north of London manurial matters placed on a pasture would be long in getting incorporated with the soil, and to allow horses to browse amongst the crude impurities of a great city cannot be without danger to the horses. Municipal authorities who wish to find a ready market for street refuse must clearly take care that it is not mixed with dangerous materials of no manurial value likely to wound the feet of animals. In connexion with Marchesi's observation that the tetanus organism has not been found at a greater depth than two metres I would allude to a fact to which I shall return later that this approaches the maximum depth to which the earthworm burrows. It is obvious that if a spore were carried downwards by a worm it would there meet with anaerobic conditions favourable for its preservation. A review of the main facts connected with tetanus cannot but rouse in us some surprise that in face of the ubiquity of the cause the disease in man should be so rare. This is probably in part due to the fact that we wear boots.

ANTHRAX.

Anthrax is a disease which undoubtedly is connected with the soil. The bacillus was discovered by Pollender in 1849, a discovery which is just 50 years old and which marks the dawn of pathological bacteriology. The identification of the bacillus in the laboratory and the diagnosis of the disease in animals from quarter-evil and septicæmia is not without difficulty. These difficulties are now understood but they are sufficient to throw a shade of doubt over some of the earlier observations. It may be well in the first place to give some of the facts collected by Pasteur without comment.

M. Chamberland, the able assistant of M. Pasteur, in his work[3] gives a *résumé* of what one may call the modern history of charbon. In 1842 a Government report showed that in France the disease raged among the flocks of half-bred merino sheep belonging to farmers in La Beauce. It especially attacked lambs and the losses in this district of La Beauce amounted to as much as 20 per cent. (out of a total of some 1,300,000 sheep) "et souvent dans les localités dont le sol est sec et calcaire la mortalité va jusqu'au quart, au tiers et dépasse parfois la moitié du troupeau." In the department of Seine-et-Marne and in the districts of Provins, Fontainebleau, and Meaux are certain farms known as *fermes à charbon*—"les meilleurs cultivateurs ne les louent qu'en tremblant." Also in Le Cantal charbon is known as "mal de montagnes" and certain hills are known as "montagnes maudites" because of their evil reputation in relation to charbon. The animals stricken with charbon show for a few days some excitability and passing dyspnœa and they become distended after feeding. Next the urine becomes bloody and it is a sign of bad omen to see fleeces spotted with blood. The dung also is noticed to be soft and slimy, of a whitish colour stained with blood. They die at last somewhat suddenly and in doing so usually void some blood-stained dung and urine and expel bloody froth from the nostrils. Post mortem decomposition is rapid and the animal swells up and blood is expelled from the nostrils. Hæmorrhages are found in the skin and cellular tissue, as also in the viscera which are engorged with blood.

The discovery of bacilli anthracis in the blood clinches the diagnosis. It was in 1850 that Rayer and Davaine described the bacilli and in 1877 Pasteur communicated to the Academy of Sciences the important fact of sporulation observed in these bacilli by Koch and himself, and further pointed out that the bacillus anthracis was essentially aerobic and was quickly destroyed in the blood of the dead animal after the onset of putrefaction. It is important to take notice of the extent to which the ground is soiled by the dung, discharges, urine, and bloody wool of an animal ill with anthrax.

In August, 1878, M. Pasteur fed sheep on lucerne previously watered with a pure cultivation of bacillus anthracis. He says that "in spite of the immense number of spores taken in with the food many of the sheep escaped death. ......The communication of the disease in this way is still more difficult in the case of guinea-pigs." "Nous n'en avons pas obtenu d'exemple dans d'assez nombreuses expériences. Les spores, dans ce cas, se retrouvent dans les excréments. On les retrouve également intactes dans les excréments des moutons." The mortality is much increased when the infected food is mixed with prickly material such as the leaves of thistles and the chopped beards or husks of barley, and the post-mortem examination of sheep rendered "charbonneuses" by fodder of this kind gave reason to suspect that they were in fact really "inoculated" by definite injury by the prickly food to the back of the throat. Of 19 sheep fed on lucerne polluted with spores three died after four, seven, and nine days; of 11 sheep fed on polluted lucerne and thistles three died after three, four, and six days.

It is recognised by professional "knackers" that they run little risk of contracting "charbon" by manipulating dead animals far advanced in putrefaction and both Pasteur and Koch have shown that putrefaction soon destroys the bacilli in the blood and tissues of an animal and that the bacillus anthracis being aerobic sporulation does not take place inside the putrefying body, but is very liable to occur in the blood which escapes from it whether the blood flow upon the earth or upon a dung-heap.

In August, 1878, Pasteur made a necropsy on the body of a sheep and then buried the carcass in M. Maunoury's garden. 10 months and 14 months afterwards Pasteur found spores of anthrax in the earth of this animal's grave and established the fact by the inoculation of guinea-pigs. The spores were found in the surface soil over the grave, although since the burial the ground had not been moved. Similarly spores were found in the soil over the grave of a cow buried two years previously and at a depth of two metres. These spores were found over the graves of dead animals after all the operations of cultivation and harvest. Earth taken at a distance from these graves did not give charbon.

In announcing these facts to the Academy of Sciences in July, 1880, Pasteur says: "I shall not be surprised if doubts arise in the minds of the Academy as to the correctness of these facts. It will be asked, 'Does the earth, which is so potent as a filter, allow these microscopic spores to rise to the surface?' These doubts seem to be supported by facts already published by M. Joubert and myself. We have announced that water from even superficial springs is sterile...... These, in spite of conditions above which make for pollution, keep perfectly pure, which shows that a certain thickness of earth arrests all solid particles." Pasteur attributes the uprising of spores to the action of earthworms and he claims to have actually recovered spores from the bodies of earthworms living in soil polluted with anthrax.

"May not 'earthworms,'" asks Pasteur, "bring other noxious germs to the surface? They are always filled with a mixture and the spores of charbon are in them mingled with germs of putrefaction and septicæmia." Pasteur, at this time regarded the earthworm as the great cause of the dissemination of anthrax. In a footnote Pasteur calls attention to the fact that in Le Cantal there are pastures which from time immemorial have escaped (*sont épargnés*) and others in which from time to time the cattle were decimated and which are known as "*montagnes dangereuses*" which are abandoned without deriving the least profit from them, "at least during several years," says M. Baillet.[4] "This last circumstance deserves great attention. It proves that the cause, whatever it may be, which produces charbon in a locality disappears with time." In Beauce Pasteur saw certain fields in which the folding of sheep had been interdicted for several years—i.e., since the last death thereupon from charbon. "Now we placed flocks of sheep on five of these fields and the mortality was *nil* except in one flock where it amounted to 1 per cent."

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[3] Le Charbon, Paris, 1883.

M. Colin of Alfort, a professor at the Veterinary School, not being satisfied with some of Pasteur's experiments, a further report was made on May 17th, 1881, by a commission composed of M. Bouley, M. Davaine, M. Alphonse Guerin, and M. Villemin. Earth from a 12 year grave, a three year grave, and from virgin soil was kept at a temperature of 90° C. for 15 minutes and the fine sediment was injected into guinea-pigs. Of five guinea pigs inoculated with 12-year earth on March 19th four died on March 21st and 22nd from septicæmia and one died on March 23rd from charbon. Of five guinea pigs inoculated with three year earth on March 19th, four died from March 21st to 23rd from septicæmia and one died on March 23rd from charbon. Of five guinea pigs inoculated with virgin soil on March 19th none died. One had a small abscess at the seat of puncture. Of six guinea pigs inoculated with 12 year and three year earth on March 30th five died from septicæmia on April 3rd and one died from charbon (12 year earth) on April 3rd. Of three guinea pigs inoculated with excreta taken from the bodies of living earth worms two died from septicæmia and one from charbon on March 30th. Of the 19 animals killed by the above experiments 15 died from septicæmia and four from charbon.

Since 1879 M. Pasteur had asserted that most soils when inoculated were capable of causing death from septicæmia quite apart from any contamination by the death of anthrax animals. Of three guinea pigs inoculated on March 28th with worm castings taken from above the graves of some of the victims of the commune situated on waste land one died from septicæmia on April 1st and two were unharmed.

Pasteur had clearly demonstrated that the anthrax bacillus is essentially aerobic, that it is soon destroyed by putrefaction and that for sporulation free exposure to air and a temperature above 15° C. and under 45° C. are necessary. These facts seem out of harmony with the view that earthworms bring spores from a deeply buried carcass to the surface.

> The following case is quoted by Pasteur.[5] On August 21st, 179C a mare fell dead from anthrax on a causeway (digue) at Houe (Lure et Loir). The animal was skinned and the carcass was dragged by two horses all along this causeway (along which farm animals passed to and fro) with the result that the ground was soiled by the blood and other débris of the dead animal. A large number of the sheep and cows which used this soiled path died. These animals were skinned and buried with the result that the foci of contamination spread and ultimately 500 or 600 sheep succumbed to anthrax. The *skinning and* transportation of an animal dead from anthrax must necessarily be a most dangerous process.

All are agreed that anthrax is a disease *liable to haunt* localities. Thus, in the report of the Board of Agriculture for 1895 I find the following:—

> An undoubted fact in connexion with anthrax is its tendency to recur on certain farms. An examination of the agricultural returns received shows that during 1895 the disease reappeared on 23 farms or other premises in England and six in Scotland where it had been reported in the previous year. From this cause farms come to be regarded as dangerous and their value is very greatly depreciated. In a report issued by the German Government[6] allusion is made to the farm of Parkisch where anthrax was rife. "Numerous outbreaks of the disease were especially remarked when certain portions of the farm were used as pasture and when fodder from these portions was used in the stalls. The former tenant of the farm is said to have buried on different parts of the farm carcasses of animals which had died of anthrax and also to have put the carcasses into the dung heap to use them as manure."
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> Again, Dlouie is a large estate in Kroloen, district Losen, and is known as a hot-bed of anthrax. It is stated that carcasses of animals which have died from anthrax have been buried with great carelessness on different parts of the fields especially behind the sheep sheds and in a small wood situated some 100 paces from the farm, which also serves *for pasturage, and even in the dung heaps* which together with the straw from under the diseased animals were used for manure.

It is alleged by Friedberger and Fröhner that the spores may vegetate in the soil and surface water quite independently of the animal body. The disease is said to occur among horses, cattle and buffaloes in Eastern Bengal, Manipur, and Burma without the agency of infection and to be in that part of the world a truly miasmatic disease. As spore formation requires something like a blood heat, it is only what might be expected to find the disease becoming endemic among cattle and horses in tropical countries. Where infected *animals drop dung and other* discharges on the soil it becomes impossible to say whether the infective spore originates in the soil or in the animal. The distinction which separates soil from dung is somewhat subtle. These authors assert that "there exists a well marked connexion between the disease and the amount of moisture in the soil. It appears most frequently in lowlands and plains exposed to inundations and great heat." Copeman also asserts that the disease is prevalent on damp soils containing much humus, as, for instance, upon peat bogs and near the borders of lakes and rivers which have overflowed. On the other hand, we have Pasteur speaking of *montagnes maudites* in connexion with anthrax and asserting that the mortality is great in soils which are *secs et calcaires*.

Many of the outbreaks of anthrax in this country have been in the neighbourhood of Bradford and have been traced to the use of infected wool refuse as manure. A map published by the *Board of Agriculture shows* that the outbreaks of anthrax are most frequent in those counties of Great Britain where dry foreign wools, hairs, hides and skins are manufactured into goods. In 1892 there were 42 outbreaks of anthrax in the West Riding of Yorkshire, as against two in the North Riding and one in the East Riding. Wool when used as a manure must take a long time in becoming disintegrated and humified. In this respect it is very different from dung and if wool be infected with anthrax spores it must be a very dangerous manure for a pasture. The chief sources of danger are said by Dr. Bell of Bradford to be the dry wools of goats, alpacas, and llamas which are imported very dry from hot countries. It is the anthrax spore which is the danger and if, as is the case, a high temperature and free admission of air be necessary for sporulation, an excess of water would be unfavourable for that process. There seems a concurrence of opinion that the bacillus anthracis is killed by putrefaction and soon disappears in the unopened and unskinned body. Schmidt-Mühlheim inoculated guinea pigs with anthrax and as soon as they were dead he skinned them and placed the limbs in an incubator at 39° C. The surface of the flesh was soon covered with a whitish film which was found to consist exclusively of anthrax bacilli, in many of which commencing spore formation was apparent. There can be little doubt that the soil becomes infected by the discharges from the living animal and the skinning and other manipulations of the dead one. The advice which is usually given in this country to bury anthrax carcasses deeply and unopened and unskinned is doubtless sound, although it is doubtful if the depth of the grave adds materially to the anaerobism of the surroundings. It is very doubtful if in an unopened body spore formation be possible after a short period of burial. It is clear that the animal should be buried at the spot where it dies and that the spot should be enclosed and planted with a few saplings of some indigenous tree. The value of "quicklime" is doubtful. Whether it be advisable to delay burial until quicklime can be obtained is still more doubtful.

All Pasteur's experiments in relation to graves appear to me to be vitiated by the fact that they took place in an anthrax district and it is very difficult to say whether the spores were derived from the buried animal or from the dung of infected ones which had been used as manure or from the blood stained wool which, we are told, is of "bad omen" in a flock. It is a noteworthy fact that of the 19 guinea pigs inoculated by the Alfort Commission four only died from anthrax and 15 from septicæmia, and that the earth from the three year old grave and from the 12 year old grave conveyed anthrax in the same proportion—i.e., one in four inoculations. There seems no doubt that spores may be found in earthworms or their castings and there is equally no doubt that if the worms have brought the spores from the depths of the earth such spores must have originally been formed on the surface. It is, of course, quite impossible to say whether a worm swallowed the spore on the surface or below it. It is certain that recently dead bodies have no attractions for worms. Such carrion usually forms the food of maggots hatched from the eggs of diptera deposited before burial and of beetles which live in the earth and are soon attracted to it.

There are some [illegible] observers as to the infectivity of food grown on anthrax ground. On the one hand, Pasteur was unable to do much harm to sheep fed on lucerne sprinkled with spores and, on the other hand, we have a story quoted by Pasteur of an old woman whose goat and cow died from anthrax when fed with clover stolen from over a grave two years after the burial of an anthrax animal. It is, of course, impossible to get away from the *post hoc* fallacy in these cases, especially in a country where animal hygiene was utterly neglected and where anthrax was, or diseases resembling it were, rife. In this country we have had no outbreaks of anthrax at all comparable to those which have proved such a scourge in France and other parts of the continent. The loss of sheep from anthrax in England is very slight and the explanation is probably to be found in the relative vulnerability and immunity of the flocks. Sheep in England are rarely housed but are allowed to breathe at all times the freshest of fresh air. Their pastures are changed before the ground gets foul and when food is short they are either killed at once or fed upon imported food. Such a condition of things would be likely to breed immunity to disease of all kinds; and it is noteworthy that tubercle is much less common among sheep than amongst animals which are housed. When flocks are kept partly for dairy purposes and when sheep are housed and breathe a foul air and lie upon filth mixed with earth it is no wonder that disease, especially such a disease as anthrax, is liable to be rife and to be difficult to eradicate.

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[4] Mémoires du Ministère de l'Agriculture, 1870.

[5] Annales de l'Agriculture, 1ère Série, tome xxx., p. 332.

[6] Report of the British Board of Agriculture, 1894.

Anthrax in the human subject is a rare disease. Man is never infected through the alimentary tract as appears to be the rule among animals. Dr. Bell of Bradford says that "no such case has been recorded in this country." Cutaneous anthrax (malignant pustule) is caused by direct inoculation. It occurs (1) in those who come into contact with infected animals alive or dead; (2) in those who handle offal, skins, hoofs, horns, hairs, wools or other derivatives from such diseased animals; and (3) in countries where the disease is common among animals women and children who do not come into direct connexion with infective material are not infrequently attacked with the disease through the medium of persons, animals, or insects.

Pulmonary anthrax or wool-sorter's disease was first noticed in the Bradford worsted district after the introduction of alpaca and mohair as textile materials in 1837. "This form of anthrax may attack any person exposed to the inhalation of anthrax spores in *dust* arising from the products of diseased animals." The fact appears to be undoubted that anthrax may be a dust disease and that the spores when perfectly dry may be inhaled into the lungs. And yet I have hitherto found no records of pulmonary anthrax from the inhalation of dust from highly manured ground which must, one would suppose, especially in the West Riding of Yorkshire, often contain anthrax spores. The lungs of the agricultural labourer and the market gardener appear to be immune to the infectivity of anthrax spores. It seems to be of very great importance to bear in mind: (1) that anthrax spores persist even in the finely pulverised soil of worm castings, which must be very easily dried and converted into dust; (2) that anthrax may undoubtedly infect man by the inhalation of dust; and (3) that pulmonary anthrax among agriculturists has not been recorded. In India it is believed by some that dust is a common cause of enteric fever among Europeans, a statement which is insusceptible of proof or of disproof. Does pulmonary anthrax occur among the rural population of the tropical countries where the disease is endemic amongst cattle? In this connexion we must bear in mind that anthrax bacilli may change their virulence without undergoing any morphological changes and in this form when inoculated may confer immunity on susceptible animals without apparently producing other effects. The virulence is diminished by cultivation at high (from 108° to 120° F.) or low (from 66° to 75°) temperatures, by cultivation under pressure of three or four atmospheres, by exposure to sunlight, or by admixture with other bacteria. The modified organisms thus produced are not pathogenetic but confer immunity on susceptible animals for nine or 12 months. Morphologically they are indistinguishable from the most active and virulent forms of the organism and they will generally regain their virulence when favourable conditions are restored although the degree of virulence varies in different species of animals. The persistence of the anthrax spore in the earth does not admit of a doubt but there is no evidence that man is ever infected directly from the earth. How far anthrax in animals is due to inoculation rather than to feeding requires further and very careful investigation.

DIARRHŒA.

Diarrhœa is a disease which in its epidemic form has been supposed to be engendered in the earth.

The third quarter of the year 1898[7] was characterised by a very large infantile mortality, mainly attributable to diarrhœa. The rainfall for the quarter was unprecedentedly small, the temperature was above the average, and the harvest was one of the best on record.

Of the 141,540 deaths registered 52,837 were those of infants under one year of age. The mortality of infants, measured by the proportion of deaths under one year of age to registered births, was 225 per 1000 which is the highest proportion in any quarter for which the figures are available and is 55 per 1000 above the average in the 10 preceding third quarters. In the 33 great towns as a whole infant mortality was equal to 275 per 1000 births, being higher than the proportion in England and Wales by 50 per 1000.

Excluding the towns infant mortality in the remainder of England and Wales was in the proportion of 184 to 1000 births. *Diarrhœa* caused 22,524 deaths, equal to an annual rate of 2·85 per 1000, or 1·21 above the average rate of mortality in the third quarters of the previous ten years.

The death-rate from this disease ranged from 0·7 in Rutlandshire, 0·58 in Hertfordshire, 0·66 in Shropshire, and 0·68 in Dorsetshire, to 3·63 in Leicestershire, 3 70 in Staffordshire, 3·94 in Lancashire, 4·23 in the East Riding of Yorkshire, and 4·40 in Warwickshire. Among the 33 great towns the diarrhœa rate averaged 3·85 per 1000, the highest rates being 5·85 in Hull, 5·94 in Sunderland, 6·30 in Sheffield, 6·38 in Wolverhampton, 6·41 in Preston, and 6·47 in Salford. In the 67 other large towns the rate averaged 3·27 per 1000. In the rest of England and Wales the diarrhœa death-rate was equal to 2·07 per 1000.

It will be observed that the mortality from diarrhœa was mainly urban. Among counties it is the rural counties which have least and the industrial counties which have most diarrhœa and if we turn to the mortality returns for those counties where diarrhœa was especially rife we shall find the mortality greatest in the urban districts. It is a point not without interest to note that the diarrhœa death-rate and the fever death-rate in this quarter bore no relation to each other and that, while the diarrhœal death-rate was 1·21 above the fever death-rate was 0·03 below the average for the corresponding quarter of the last 10 years. In the following table some figures are collected which show this very strikingly.

Table showing the Death-rates per 1000 from Fever and Diarrhœa during the Third Quarter of 1898.

—	Fever.	Diarrhœa.
England and Wales	0·16	2·85
London	0·11	3·19
Wolverhampton	0·18	6·38
Leicester	0·13	5·34
Manchester	0·09	5·33
Preston	0·28	6·41

Diarrhœa is a disease of hot weather. Ballard thought that when the four-feet temperature of the earth reaches 56° F. diarrhœa becomes common. Tomkins of Leicester (Leicester is a "diarrhœa town") shows that the disease becomes common when the one-foot thermometer stands at 60°. Snow of Buffalo, U.S.A., showed that in 1886-88 diarrhœa mortality was highest when the minimum atmospheric temperature attained its highest average range. The London statistics for 1887 and 1888 collected by Dawson Williams show a similar relationship between diarrhœa and a high average minimum range of temperature. Copeman considers it highly probable that the disease is due to "microphytic processes" going on in the upper layers of the soil. This would afford an explanation of the fact that summer diarrhœa is especially a disease of cities having a polluted soil. Ballard's conclusions (as given by Copeman) were: "That the essential cause of diarrhœa resides ordinarily in the superficial layers of the earth where it is intimately associated with the life processes of some micro-organism not yet detected, captured, or isolated. That the vital manifestations of such organism are dependent, among other things, perhaps principally upon conditions of season and on the presence of dead organic matter which is its pabulum. That on occasion such micro-organism, capable of getting abroad from its primary habitat, the earth, and having become air-borne, obtains opportunity for fastening on non-living organic material and of using such organic material both as nidus and pabulum in undergoing various phases of its life-history. That in food, inside of as well as outside of the human body such micro-organism finds, especially at certain seasons, nidus and pabulum convenient for its development, multiplication, or evolution. That from food, as also from the contained organic matter of particular soils, such micro-organisms can manufacture by the chemical changes wrought therein through certain of their life-processes a substance which is a virulent chemical poison (probably ptomaine). That this chemical substance is in the human body the material cause of epidemic diarrhœa."

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[7] Quarterly Return of the Registrar-General.

It is most important to remember that these speculative notions of Ballard's are not facts.

The bacillus enteritidis sporogenes is believed by Klein to be the cause of infantile diarrhœa.[8] It is an anaerobic bacillus which forms spores and may be easily cultivated in milk. It is fatal to rodents when injected hypodermically and produces a foul smelling bloody œdema of the cellular tissue and adjacent muscle tissue. The spores were found in four out of 10 cases of infantile diarrhœa examined and in six out of eight cases of cholera nostras. It was found in eight out of 10 samples of milk purchased in London milkshops between April and the end of June (when diarrhœa was not epidemic?) including samples of so-called "pure sterilised milk." It has been found in large quantities in sewage and in sewage effluents. It is found in horsedung and in all matters polluted with it. It has not been found in pig dung or cowdung or in the dung of a healthy human being.

In face of the wide distribution of the microbe it is evident that the vulnerability of the individual must be an important factor in determining an attack of diarrhœa. If we are to consider diarrhœa as a soil disease it is evident that it exists only in the upper layers. It is more common among city streets than in agricultural districts. According to Klein the probable cause is largely to be found in horse dung which is pulverised and blown about generally. Temperature, as we all know, is most potent as a cause of infantile diarrhœa in cities. That it is a "soil" disease in any true sense is certainly not proven.

DYSENTERY.

Andrew Davidson[9] says:—"In keeping with the predilection of endemic dysentery for marshy localities accounts of its endemo-epidemic extensions in temperate climates generally point to the temporary establishment of paludal conditions." Thus in 1873 an outbreak arose from the cleaning out of the lateral canal of the Loire and the desiccation of the mud. A similar result followed at Leymen (Haut Rhin) from the clearing out in August, 1850, of a vast slimy reservoir situated in the middle of the village. In tropical countries dysentery appears to be more independent of soil than in temperate climates, but an imperfectly-drained or marshy soil is everywhere favourable to its prevalence. The geological nature and the mineralogical constituents of the soil are secondary in importance to its physical conditions—its dryness, humidity, and aeration. These again are of less moment than its state of organic purity. That a soil charged with dysenteric or perhaps even with fæcal (simple fæcal) evacuations is capable of giving rise to the disease is amply proved. The epidemics which occurred in the Cumberland and Westmorland Asylum in 1864-65 and in 1868 were shown by Dr. Clouston to be due to the effluvia from a stiff clay field over which the sewage of the asylum was allowed to flow. The soil was quite unfit for irrigation purposes. Among the causes of the frightful dysentery mortality which made Secunderabad a byword none was more effective than the saturation of the soil of the site itself with organic impurities, the extreme pollution of the vicinity with fæcal matters, and the bad privy accommodation. The dysentery of war and famine shows little respect for climate or season; under the given conditions it appears in countries most free from the endemic disease and at all seasons of the year. The dysentery of war and famine is extremely fatal and it has a greater tendency than any other to become complicated with typhus, typhoid, and malarious fevers. In the Irish workhouses during the 10 years ending June, 1851, no fewer than 50,019 persons perished from dysentery and 20,507 from diarrhœa. The dysentery of war and famine frequently assumes a contagious character. The bacteriology is rather uncertain owing to the numbers and variety of the micro-organisms which are found.

Davidson concludes: 1. The healthy intestine is capable of much resistance to the infective agents of dysentery. 2. The healthy human being carries with him organisms capable under certain conditions of giving rise to inflammation of the intestinal tract, and besides organisms of suppuration, putrefaction, and sepsis are everywhere present which have the power of determining dysenteric inflammation of the bowels when its nutrition is impaired. 3. A simple catarrhal condition of the bowel is sufficient in itself to produce true dysentery. 4. When we observe a body of men seized with an infectious form of dysentery immediately after being subjected to hardship and depressing meteorological influences while another body in the vicinity having the same food- and water-supply but not subjected to the like fatigue and hardships escape, we are led to infer that the common exciters of inflammation rather than any specific agent must have given rise to the disease.

CHOLERA.

Ernest Hart says: "Within certain areas in India cholera is endemic, especially in the country of the lower Ganges. There the air, the water, and the soil are never cold, the ground is often damp, and when it is dry the tanks are foul, so that there is always a fit breeding place for the contagion, &c." Koch's vibrio (Kanthack) grows in dilute peptone at from 30° to 35° C. It is commonly said to be destroyed by drying. It is a facultative anaerobe and highly saprophytic. Cultures retain their vitality on silk threads for 86 days and dried on glass for 120 days. "From flies fed on choleraic material the vibrios could be separated after 14 days." The inoculation test practised on the lower animals is inconclusive. According to Pettenkofer (quoted by Copeman) cholera occurs when the ground-water after having attained a higher level than usual commences again to fall.

MALTA FEVER.

Malta fever[10] is caused by the micrococcus melitensis discovered by Bruce in 1887. It is common to the shores of the Mediterranean and Red Seas. "It was early apparent that its presence in Malta and Gibraltar was connected with fæcal and organic matter from human sources. Sewers and sewage works where those have been undertaken, as in Valetta and Naples, appear to have little influence in diminishing the attacks. Indeed, the channels are so frequently pervious and allow *the fæcal matter to soak into the pores of the soil that they virtually* become elongated cesspools and increase rather than diminish the dissemination of the poison. Tomaselli notices the same fact in relation to the prevalence of the fever and the introduction of sewers into Catania. In his opinion the immense quantity of sewage and sewer air which is developed in these sewers and finds its way out of them is to be placed in the first rank of its causation and is an argument in favour of the aerial dissemination of the morbific agent. The micro-organism grows best in nutrient material the alkalinity of which is slightly less than human blood and at a temperature of from 37° C. to 39° C. It fulfils Koch's postulates at all points. It lives for a long time in the dry state."

PLAGUE.

Plague has been regarded as a soil disease, but recent evidence must materially modify this opinion.

The alleged facts which support this view are, according to J. F. Payne in his article on Plague in Allbutt's System of Medicine: (1) its limited geographical distribution; (2) because ground animals such as rats perish in large numbers—"they have buboes and their organs contain immense numbers of the plague bacilli; it cannot therefore be doubted that the virus exists underground before it affects human beings"; (3) its recurrence at the same spot while places near and in direct communication escape; (4) the escape of water populations such as Canton and in London in 1665; (5) the fact that the ground floor is affected more than the first floor—"Plague does not go upstairs" (?); and (6) "the beneficial effect of local sanitary measures."

It would appear from the above reasons that the endemic prevalence of plague is comparable to that of cholera or typhoid fever and is governed by somewhat similar laws, though in other respects it differs very much from those diseases. In the double infection of the soil and the organism it resembles anthrax. Along with the infection of the soil there appears to be a passage of the virus in some form into the air, so that it has always been believed that the disease may be acquired by inhalation like typhus fever. Scientific explanation of this method of receiving the virus is still wanting. Epidemics have often been preceded by drought; epizootics, famine, and abundance of flies have been noticed. Epidemics are usually checked by cold and heat. It is pre-eminently a filth disease invading by preference the crowded, ill-ventilated hovels of the miserable. "A soil contaminated with fæcal discharges and decaying animal matter of all kinds appears to be an essential condition for the vitality of the virus." Widely different opinions have been held as to its "contagiousness." "The infection is doubtless generally conveyed by persons either infected with the disease or in the state of incubation. Such persons convert the house they occupy into a focus of infection till possibly the virus passes into the soil and a severe *epidemic may result.*" *The rate of extension is* variable but generally slow; plague has taken weeks or months to pass from one side of a city to another; it creeps along from point to point so as to be compared by some to a drop of oil on paper. Such gradual extension suggests the slow progress of a virus in the soil itself, and probably that *is in some* places the explanation, but obviously only transmission through short distances can be thus accounted for.

It is encouraging to observe how the habit of calmly observing and recording the phenomena of different epidemics together with carefully devised experiment has thrown light upon many of the obscure points connected with plague. We now know that plague is protean in its forms and that all forms *are not conveyed from individual to* individual with equal readiness. The unfortunate accident which occurred last year in Vienna ought to have, and doubtless has had, the effect of dispelling many of the superstitions in regard to plague. It has clearly demonstrated to the people at large (1) *that the poison is something* tangible which may be conveyed from one part of the world to *another* in a test-tube; (2) that the poison may infect the lower animals; (3) that the lower animals may infect man; (4) that the pulmonary form of the disease is terribly infectious and communicable through the air; and (5) that measures of disinfection and isolation are capable of cutting short an epidemic. Experiments carried out in districts where a disease is epidemic or endemic necessarily acquire a measure of *uncertainty* from that fact alone. The occurrence at Vienna, much as one may deplore it, was an object-lesson of the greatest value and converted what many regarded as mere theories into facts which all can read and understand. In the recent epidemics in the East the theory that plague grows "in the soil" has received no support whatever and that it spreads in the soil like a drop of oil permeating paper appears to be unlikely. In India two facts have come to the front—viz., the danger in [illegible] of [illegible] rats and

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[8] Twenty-seventh Local Government Report, 1897-98.

[9] Allbutt's System of Medicine, vol. ii., p. 408.

[10] Allbutt's System of

(*b*) abrasions on the skin. The rat lives in burrows in the soil and swarms in our sewers. He feeds largely at night and comes out of his hole in search of food and prey. It has long been recognised that the rat is susceptible of plague. In Bombay, according to Simpson, as many as 100 affected rats were counted in one small grain depôt in one day. Hindoo writings 800 years old warn the inhabitants to leave a district when they observe a mortality among rats. The infection of rats usually follows infection of a distant locality by men. Nowhere has this been more decidedly proved than during the late epidemic in India, where the infection of the rats has unfortunately followed the introduction of the virus by man, from a primary seat of infection situated at considerable distances from the secondary area of infection. Rats may convey infection from infected burrows on their feet or fur; they also become infected by eating each other. When dying they usually leave their holes and run about the rooms of a house and then die. Carelessness in dealing with or handling them, especially in the filthy surroundings and associated with the dirty habits of the inhabitants of these houses, along with the possible convection by vermin, must all necessarily be in favour of the infection being carried to man. The amount of such infection spread by rats cannot be gauged. The infection of the rat is no proof whatever of infection of the soil except by filth deposited on the surface. Lowson in his report to the Bombay Government in 1897 says: "That the disease is primarily a soil disease is certainly borne out neither by observation nor experiment. Takaki and I carried out bacteriological experiments in Hong-Kong by which we were able to prove that even in houses in which the earthen floors had been severely infected no cases of plague infection could be obtained and later experiments on the artificial infection of earth with a culture of the plague bacillus have shown that the mixture of earth and bacilli loses its infecting power, sometimes in a couple of days." Indeed, there has been no proof forthcoming so far that the plague bacillus has ever been found below the surface of the earth.

In Hong-Kong the soldiers who were attacked by plague were in the cleansing squads, and were well booted, but worked with trousers open at the bottom. In India the military parties who assisted in this work were ordered to wear putties to prevent plague-infected dust and animals from coming in contact with their legs, with the result that none of those engaged in this work became infected, and that, too, amongst probably eight or 10 times more soldiers than were doing the work in Hong Kong. To sum up, it may be said that the following are the most important items in the spread of plague: (1) filthy habits of the people, such as spitting over the floor and others mentioned above; (2) filthy houses; (3) overcrowding and consequent rapid increase of contagious disease when once imported; (4) presence of rats, insects, and other vermin; (5) the naked condition of the people going about, such people presenting almost unlimited opportunities for the entrance into their tissues of plague poison by inoculation and through abrasions; (6) pollution of soil and houses with the excretions of man and animals; and (7) filthy clothing and absence of bodily hygiene.

DIPHTHERIA.

Arthur Newsholme in his work on Epidemic Diphtheria (1898) while admitting that personal infection is the chief means by which diphtheria is spread, contends that:—

> The specific micro-organism of this disease has a double cycle of existence, as have the specific micro-organisms of enteric fever, erysipelas, scarlet fever, rheumatic fever, &c. One phase is passed in the soil, another in the human organism. *One is saprophytic, the other parasitic.*[11] It is not strange, therefore, that the epidemic prevalence of all the above diseases is favoured by deficient rainfall if this is sufficiently long continued. This deficient rainfall implies a low subsoil water and a subsoil above the level of this water which is relatively dry and warm, probably *the optimum conditions* of the saprophytic life of the above pathogenic micro-organisms. The causes of the transition of the diphtheria bacillus from the saprophytic to the parasitic phase of life may be surmised both as regards (*a*) season and (*b*) years of special epidemic prevalence. Diphtheria is most prevalent in the autumn and early winter months, when the optimum temperature and the optimum degree of humidity of the soil are rapidly disappearing or have departed. It is also most prevalent after the wet weather occurring in or immediately following exceptionally dry years. Both these conditions tend to raise the ground water and to drive out any pathogenic micro-organisms from the soil.

Newsholme is of opinion that in order to account for the epidemic and even pandemic waves of diphtheria "the diphtheria bacillus under certain conditions *becomes* more actively virulent and infective—more remote from its saprophytic phase of life, and that thus persons who can resist the ingress of the feebler fall victims to the more powerful micro-organism." The latter is probably the correct hypothesis and the evidence already given clearly points to the conclusion that of the external cultural conditions leading to increased virulence of the diphtheria bacillus and greater readiness for assuming a parasitic life exceptional deficiency of rainfall and consequent exceptional deficiency of moisture in and exceptional warmth of the subsoil form an essential part.

The above is a very ingenious hypothesis, but it is essential to point out that the diphtheria bacillus *has not* been recovered from the soil and that the bacilli of rheumatic fever and scarlet fever have not yet been identified. Before Newsholme's hypothesis can be accepted a great deal more evidence will be necessary.

Newsholme's figures and tables show clearly that the amount of diphtheria is very great in the American cities. He records *death-rates* (per 100,000) for diphtheria of 109 in New York (average of 28 years, 1868-95), 77 in Chicago (36 years, 1859-94), 100 in Boston (35 years, 1861-95), 114 in Brooklyn (1875-95), and 129 in Pittsburg (1877-94). The highest death-rate from diphtheria ever recorded in London was 76 (per 100,000) in 1893. The average death-rate per 100,000 was in Salford 32 (1860-95), Manchester 18 (1871-96), Liverpool 14 (1860-95), and Sheffield 15 (1859-96). The figures were still lower in others of our great industrial towns. In Holland we find death-rates per 100,000 *from* diphtheria alone of seven in Rotterdam, 12 in The Hague, and 31 in Amsterdam (all three for 1879-95). Berlin gives 101 (1869-96), St. Petersburg 65 (1879-95), and Moscow 64 (1878-96). The death-rate in Japan appears to be low.

Newsholme's figures generally seem to show that diphtheria is now a disease more of the towns than of the rural districts. It is not very easy to understand how in a city where pavements and other impermeable coverings to the soil are general the bacillus is driven by the rising subsoil water into the air. Of course, it may be driven out of the sewers and sewer ventilators, in which case it becomes a sewer disease rather than a soil disease. Why is it not an air disease? Nobody who has ever smelt the air of Bond-street in a hot July or who has watched the impurities descending from the upper air when they are driven downwards by the first showers after a drought would refuse to allow to the air of a city any amount of potential infectivity. Most of the facts collected by Newsholme are explained as readily, *if not more readily*, on the theory that diphtheria is an air disease as upon the theory that it is a soil disease. If we remember that a theory is not a fact these speculations will do no harm. Unfortunately this is not always remembered. Diphtheria (Copeman) has been supposed to show a preference for houses on damp clayey soils (Greenhow, Airy) and dampness of habitation (Thursfield). "Although," says Copeman, "dampness of site is undoubtedly a factor in the production of outbreaks of diphtheria, particularly if such dampness be due to persistent leakage from imperfect sewers or cesspools," it does not appear to bear any relation to the rise and fall of the subsoil water.

That diphtheria is a soil disease is certainly not proven.

MALARIA.

A few years ago I should have spoken of "malaria" as undoubtedly caused by something in the soil itself and I should have indulged in the stock phrases about miasmata, mephitic vapours, and the like. The discovery of hæmatozoa in the blood of sufferers from malaria has altered our point of view. The most widely spread poison in the world has become something which is visible and tangible and inoculable. No discovery which has ever been made in the domain of medicine is likely to have such far-reaching effects. Further it seems certain that the infection of human beings may take place viâ the mosquito and we are now concerned to find out whether this is or is not the only medium through which the blood of man receives the *parasite*. Some who are well qualified to speak would answer in one way and some in another. This is not the place for weighing arguments *pro* and *con* nor can I claim any special knowledge which qualifies me to sit in judgment. Let us assume that it may possibly be shown hereafter that what we have hitherto regarded as "malaria" is a parasitic disease wholly and solely inoculated in us by insects of the mosquito class and that in respect of its mediate infection by animals malaria will fall into line with rabies. We cannot issue a muzzling order to be enforced against mosquitoes nor can we lure stray mosquitoes to their death in some tropical Battersea. We shall have to go more to the root of the matter and while on the one hand we may be able to show Europeans the importance of protecting themselves against the attacks of insects we must still continue to make use of our accumulated knowledge as to the conditions of soil which indirectly cause remittent fevers to be endemic. Old and well-established facts will now be re-examined by intellects strengthened and widened by the discoveries of Laveran and Ross, and our knowledge is sure to be extended and increased. Although the conditions of soil which give rise to malaria are too well known to need any lengthy discussion here it may be well to give some of the latest utterances on the subject.

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[11] It is not contended that there is a regular alternation of saprophytic and parasitic generations; but that such alternations do occur.

Sir Joseph Fayrer writing on the "Climate and Some of the Fevers in India" in Allbutt's System of Medicine[12] says of malaria: "It often appears with great virulence after excavation or turning up of soil and in land that has recently been denuded of jungle." . ... "On the other hand, draining and cropping seem after a time to diminish or destroy the poison. Maclean calls attention to the fact that when excavations were made in the island of Hong Kong which consists entirely of weathered and decaying granite and is liable to be permeated with a peculiar fungus, violent and fatal remittent fever appeared."

Osler says: "An interesting feature in connexion with the disease is the gradual disappearance from certain regions under the influence of drainage and cultivation. In England, even in the fen country it is now almost unknown. In New England, too, it has gradually disappeared. In parts of Canada bordering Lake Ontario which were formerly hotbeds of the disease cases only exceptionally occur." It is well called a soil disease. "Excavations of all sorts, extensive cuttings for railways, and the breaking up on a large scale of virgin soil have in many instances been followed by outbreaks of malaria.[13] "The greater prevalence of fever in the Royal Engineers in comparison with other troops is probably to be accounted for by their more frequent employment in the excavation of the soil. Manson,[14] speaking of Ross's work in connexion with the mosquito, says that although he believes that malaria may be acquired by the bite of the mosquito, he does not believe that this is the only way. Rees of the Seamen's Hospital[15] gives details of an outbreak of intermittent fever (confirmed by examination of the blood by himself and Manson) which affected 22 of the crew of a ship nine days out from Colombo and 14 *from Calcutta on her homeward voyage. Air-borne infection or* water-borne infection cannot be lightly dismissed.

BLACKWATER FEVER.

Crosse, writing on blackwater fever,[16] says: "Some will ask, Why has blackwater fever become so common recently? The first case on record in the Niger Territory was, so far as I know, my own 10 years ago. The first case on the Niger Delta is said by some old coasters to have occurred in 1882. It seems to me that since we have begun to turn up virgin soil for coffee and other plantations the disease has become common. .. It is significant that our first three gardeners died of blackwater fever and that for some considerable time cases only occurred near the plantations, and as plantations became common so the disease spread to the other stations in the territories. Castellote notes a case in which a white man personally superintended the digging of a grave and stood about in the sun for two or three hours; next day he had severe fever which developed into blackwater fever.' According to Battersby "many virulent attacks after the turning up of virgin soil have been recorded. Almost equally remarkable, according to this observer, is the diminution of the disease which has been brought about in certain localities by drainage and cultivation of the soil."

It is generally conceded that the turning up of virgin soil is one of the most fruitful causes of malignant malarial fevers and numberless examples of this are given in text-books on the subject. Surgeon Bowden, R.N., D.S.O., informs me that the turning up of fresh soil is often followed by *an influx of mosquitoes.* On the other hand, the cultivation of the soil seems ultimately to lead to the decrease and disappearance of malaria. The broad facts of nature must convince us that this must be so for if man in his attempts to grow food merely increased the deadliness of his surroundings the human race would soon become extinct.

There is a group of diseases which (like malaria) seem to be dependent upon the bites or stings of insects and which, although they affect animals rather than man, throw much light upon the pathology of infection and teach us that so-called "climatic diseases" may be due to something very gross and palpable.

NGANA OR TSETSE FLY DISEASE.

Kanthack, Durham, and Blandford,[17] show that this disease is due to a hæmatozoon (trypanosoma) in the blood inoculated by a fly. Cats, dogs, mice, rabbits, rats, hedgehogs, donkeys, horses and their hybrids seem susceptible. The disease seems to be communicable only by some form of inoculation and is not probably conveyed by feeding on infective material in the absence of superficial lesions. Material taken from the dead body 24 hours after death is not infective. The nearest lymphatic glands to the inoculated spot are the first to suffer. The hæmatozoon gets through the lymphatics to the blood. In the late stages of the disease the animals (especially dogs) may become infected by pyococci, i.e., a spontaneous infection to which the animal is rendered prone by its marasmus. The blood may contain 3,000,000 hæmatozoa per millimetre or may prove infective though none be visible. The trypanosoma sanguinis which is found in a certain proportion of rats has no apparent relation to tsetse fly disease. A similar parasite is said to cause "surra" in India and an allied disease among horses in Algeria. Surra is probably conveyed by flies. Lingard thinks the fodder soiled with rat-dung may give the disease, but that is doubtful. The tsetse fly is a dipterous insect *somewhat resembling the* common house fly. It has a long thin proboscis, chestnut thorax marked longitudinally by four black lines, and a yellowish white abdomen of five rings. It inhabits principally the low lying and swampy valleys of the Zambesi and Chobe.

"LOUPING ILL."

This disease, which is common in the North of England and Scotland and which has been noticed as fatal to sheep frequenting certain pastures, has now been shown by Williams, Meek, and Greig Smith[18] to be caused presumably by a special kind of sheep "tick" found on these pastures, which tick is supposed to be hatched in the upper layer of the soil and to inoculate the sheep with micro-organisms which cause the disease—a disease which is characterised by staggering and lameness due to congestion of the brain and spinal cord which have been found post mortem.

TEXAS FEVER OF CATTLE.

This appears to be caused by a hæmatozoon with which the animal is inoculated by a tick (ixodes or boophilus bovis) which is parasitic. The Australian tick fever and the ixodic anæmia of Jamaica appear also to be produced by allied if not identical parasitic animals. Principal Williams, F.R.C.V.S. of the New Veterinary College, Edinburgh, in *writing on ixodic anæmia or Texas fever*[19] (which he studied in Jamaica) which is due to the infection of cattle with a blood parasite by the agency of a tick (ixodes bovis) insists that every attempt should be made to get rid of the ticks which breed especially in the vegetable rubbish left upon the pastures. "Every effort should be made," he says, "to conserve and increase tick destroyers such as the black tick birds. . I have had much amusement in watching these birds, as there seems to be an understanding between them and the cattle whereby they are assisted and encouraged to destroy the ticks." Domestic fowls should be encouraged and starlings and song thrushes might be imported. To a stranger visiting the island (Jamaica) the scarcity of birds is a striking feature. I have been told that it is due to the mongoose, which has not only diminished the number of wild birds and domestic fowls, but other tick-destroying creatures such as the ground lizard. Now this destruction of the natural tick destroyers should, as far as possible, be prevented, firstly by legal protection, secondly by encouraging the slaughter of the mongoose." (For further remarks see *Veterinary Journal*, 1896.)

SOUTH AFRICAN HORSE DISEASE.

South African horse disease has no apparent connexion with insects or surface wounds, but appears to depend not upon conditions of the surface soil, but on temporary conditions of the vegetation which *forms the pastures.*

South African horse disease (œdema mycosis) is described by Captain Hayes, F.R.C.V.S., in his translation of Friedberger and Frohner's Veterinary Pathology, and is supposed by Edington to be caused by a mould (penicillium) which grows in the vessels causing thrombosis and exudation of serum with fatal results. It appears to occur chiefly *among animals which are allowed to graze while the dew is on the grass* and the growth of the microbe is supposed to be connected with the dampness of the grass. The disease once contracted is almost always fatal, but the prophylactic appears to be dry fodder and the folding of horses until the sun has dissipated the moisture of the dews.

The history of those diseases which appear to depend on inoculations points with no uncertainty to the advisability of keeping a whole skin. The "verminous person" has assumed an importance in relation to the public health which the Legislature has already recognised, while the "tramp" with his special liability to small-pox is one to whom the anti-vaccinationist is likely to discover a "conscientious objection." The special liability of the "tramp" to suffer from small-pox—if such is really the case—seems to offer a field of investigation well worthy of being methodically explored.

There are other diseases more or less suspected of being soil diseases, but the facts are at present too few to make any discussion profitable. These are yellow fever, beri-beri, swine fever (*undoubtedly propagated by fouling of the surface* soil), cancer (?), thread worms, hydatids, and ankylostomum duodenale. Malignant œdema is an infective disease of wounds undoubtedly caused by a ubiquitous anaerobic saprophyte which occasionally manages to grow in the cellular tissue and to generate gas (CO_2, H, SH_2, CH_4) therein.

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[12] Vol ii., p. 311.

[13] I recently discussed this subject with two gentlemen who were intimately connected with Indian railways and who professed ignorance of any danger arising from recent cuttings.

[14] Brit. Med. Jour., Sept. 24th, 1898.

[15] Ibid., Sept. 24th, 1893.

[16] Ibid., Oct. 8th, 1898.

[17] Proceedings of the Royal Society, vol. lxiv., p. 100.

[18] Veterinarian, 1896 97.

[19] Principles and Practice of Veterinary Medicine, p. 416, et seq.

WIGAN MEDICAL SOCIETY.—The annual meeting of this society was held on Feb. 9th, when the following office-bearers were elected:—President: Mr. Luther Cooke. Committee: Mr. Street, Mr. Graham, Mr. Roocroft, Mr. Brady, Mr. Cowan, Dr. White, and Dr. Benson, with the president, honorary treasurer, and honorary secretary *ex-officio.* Honorary treasurer: Mr. E. H. Monks. Honorary secretary: Mr. William [illegible] The annual [illegible] was then held. T[illegible] W. Mitchell Bank[illegible] and [illegible] President of

ABSTRACT OF THE

Lettsomian Lectures

ON

SOME OF THE CLINICAL ASPECTS OF GRANULAR KIDNEY.

Delivered before the Medical Society of London

BY SAMUEL WEST, M.D. OXON., F.R.C.P. LOND.,
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LECTURE II.[1]

Delivered on Feb. 20th, 1899.

ALBUMINURIA.

GENTLEMEN,—Of albuminuria in granular kidney it is not necessary to say much. We know that it is usually small in amount and that it is not constantly present. It may be found at special times only or may be absent for irregular periods, and it might therefore be described as cyclical or intermittent respectively. It may be absent for long periods—even, it is said, altogether—though this is hard to prove. Given a clear case of granular kidney these variations in the albuminuria do not cause surprise but clinically the question often presents itself in a somewhat different form. In a given case albuminuria may be the chief symptom. We have then to decide whether granular kidney is the cause or not. It often happens that the evidence is not conclusive for the patient appears to be in ordinary conditions of health. We are thus introduced to a problem of very great difficulty which, in spite of the attention which it has in recent years attracted, is still far from being settled—viz., that of so-called physiological or functional albuminuria.

The forms of albuminuria may be arranged into five groups:—

Albuminuria	Prerenal	1. Obvious cause—e.g., morbus cordis, fevers, &c.	
	Renal	2. No obvious cause	Physiological.
		3. No evident renal disease	
		4. Evident renal disease.	
	Postrenal	5. From urinary passages, &c., generative organs, vagina (accidental).	

Experimentally albuminuria has been produced in perfectly healthy persons by excessively albuminous diet, by violent muscular exercise, by cold bathing and exposure to cold; but even then it is probably not capable of being produced in every person or at any rate not with equal ease, so that even in such cases some other factor is necessary. Again, in an apparently healthy person albumin may be found occasionally present under certain circumstances—as for instance on rising in the morning or after food—and the albuminuria has then been called postural, dietetic, cyclical, or intermittent respectively. Intermissions or variations in the occurrence of albuminuria are no evidence that there is no disease of the kidneys. Admitting all these exceptions, there remains a group of cases in which albuminuria is present with apparently nothing whatever in the previous history or the actual condition of the patient to explain it. The choice of a term by which these cases can best be described is difficult. It is unfortunate that so many terms have been used which do no more than describe the special circumstance under which the albuminuria appears. Latent albuminuria is perhaps the term to which least objection can be raised, but it is often not so much latent as overlooked. Albuminuria in the apparently healthy seems to me on the whole to be the least objectionable term to use and to state the facts best.

The statements made by different observers as to the frequency with which albuminuria occurs in the apparently healthy vary greatly. Variations so considerable in observations made by equally competent observers show that there must be a fallacy somewhere and it may lie in the fact that different sets of cases have been observed or different tests employed. Looking broadly at the figures given by the different authors these facts are evident—(1) that the majority of observations upon which the statements are based have been made upon children and adolescents and (2) those almost entirely of the male sex, and (3) that the higher percentages have been obtained by including cases in which very minute traces of albumin were found by the most delicate tests.

Roughly speaking, the cases thus group themselves into two periods—(1) those before the age of 25 years and (2) *those after 25 years.*

There are many forms of albumin; but we need only consider two forms: (1) serum albumin, which for our purpose will also include serum globulin; and (2) nucleo-albumin, a mucin-like body which has been till lately confused with mucin. It is by reckoning nucleo-albumin in with serum-albumin that the high percentages of albuminuria have been obtained.

There is no single test upon which reliance can be placed to distinguish absolutely between nucleo-albumin and serum-albumin, but the series of tests systematically used in order will suffice to make the distinction quite clearly in most cases. Desiring to form my own opinion upon this question I asked Mr. Levison to undertake some observations for me. He examined 336 healthy persons, of whom 108 were young soldiers; the rest were hospital convalescents. A proteid reaction of some kind was obtained in 136, or 40·47 per cent., and of this serum-albumin occurred in 22·02 per cent. and nucleo-albumin in 18·05 per cent. The amount of albumin in all cases was extremely small and probably in half the cases would have been overlooked in the ordinary methods of examination. The largest amount in these series was not more than would give a ring of one to two *millimetres in thickness* with nitric acid. Nucleo-albumin was found alone in nearly one-half of the cases, 18·44 per cent., and this was the same in both the groups—i.e., before 25 years of age as well as after 25 years. No clinical difference could be detected between the cases with serum-albumin and those with nucleo-albumin. These observations show that the ordinary statements made as to the great frequency of albuminuria in apparently healthy persons *is not overstated* if all those cases be included in which *there is the minutest* possible trace evident only on careful examination, but inasmuch as in most of these cases, probably one-half, the trace is so small that it can only be detected with great care when specially looked for the contrast between these results and the general impression obtained from ordinary clinical experience is not so great as at first sight it appears to be.

It is also evident, as I have already stated, that the conclusions drawn as to the frequency of albuminuria in one age-period must not be applied without due allowance to any other age-period and that speaking generally the significance is entirely different before 25 and after 25 years of age. What is required is a systematic series of observations in which the same carefully-selected tests have been employed and a sufficient number of cases of the one sex and of the other examined at the different age-periods: (1) in infants up to the age of *five years*; (2) in young children of from five to 10 years of age; (3) in boys or girls of from 10 to 18 years of age—i.e., the school age; (4) in young adolescents *of from 18 to 25 years of age*; (5) in young adults of from 25 to 35 years of age; (6) in the middle period of life—i.e., from 35 to 50 years of age; and (7) in the later periods *of life, over 50 years of age.* Of albuminuria in infancy and early childhood we have not much information. Albuminuria is said to be less frequent up to the age of 10 years. For the period from 10 to 18 years statistics abound and show the extraordinary frequency of albuminuria. Although the amount of albumin is usually small it may be considerable. It has been suggested that the presence of albuminuria at these ages is due to the active development of the sexual organs and probably also to the presence in the urine of discharges derived from these organs and that the form of albumin is generally nucleo-albumin. The albumin is, however, generally serum-albumin and not nucleo-albumin and there is no proof that nucleo-albumin is derived from the urinary passages and not from the kidney. Nor is there any proof that masturbation is a predisposing cause; indeed, what evidence there is is against it.

In young adolescents of from 18 to 25 years of age it is upon cases of this period that most of the statements as to physiological albuminuria in adults are based. Most of the observations have been made upon young soldiers. The 108 young soldiers whom Mr. Levison examined ranged from 17 to 27 years of age; but of these only eight were above 25 years of age. A proteid reaction of some kind was found in 51 cases (47·25 per cent.). This was due to serum-albumin in 30 cases (27·75 per cent.) and to nucleo-albumin in 21 cases (19·50 per cent.). The effect of exercise is well shown; thus morning drill considerably increased the total frequency of albuminuria but made no difference in the relative frequency in the two kinds of albumin.

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[1] Lecture I. was delivered on Feb. 6th and published in THE LANCET of Feb. 11th, 1899, and Lecture III. will be delivered on March 6th, 1899.

With regard to young adults of from 25 to 30 years of age I find that at the Provident Clerks Life Assurance Association in the course of the five years, 1893 to 1898, 7950 policies came before the office. Out of this number 25 cases were found to have albumin in the urine. This was a percentage well under one, actually of 0·55. At another office for the period of 10 years the number of applicants below 30 years of age was, roughly speaking, about 750, and out of these seven only were deferred or rejected on the ground of albuminuria. This gives a percentage of nearly one. No doubt more precise examination would have raised this percentage somewhat; still I think the facts are sufficient to show that at this age-period albuminuria is very infrequent and probably stands at its lowest point in life.

After 30 years of age there are a great many figures to show the general frequency of albuminuria for all ages during the insurance period, but they tell us little of what we really want to know—viz., the relative prevalence of albuminuria at the different age-periods throughout adult life. With these we may compare Mr. Levison's figures which yield a much higher average percentage—40 per cent. The difference in results is evidently due to the different tests employed. It would greatly simplify matters if we could agree upon a standard test, and the best in my opinion would be Heller's. An amount of albumin which cannot be shown by Heller's test may *quâ* albumin be disregarded clinically.

Latent albuminuria—i.e., in the apparently healthy, apart from its scientific interest, has a practical bearing in boyhood as affecting the school career, in young men as affecting the chance of appointments, and in adult life as affecting insurance. In considering the significance of albuminuria it will be well to retain the division into two groups, before and after 25 years of age, as we have hitherto done.

I. Significance in boys and adolescents.—Albuminuria is common during the period of growth and immaturity and becomes less frequent when development is approaching completion. The question arises whether we can connect these two facts together. I think we probably may. Assuming that during the period of growth all the tissues of the body are in a condition of instability and immaturity it is easy to suppose that very slight causes might disturb their balance and thus in the case of the kidneys albumin might appear in the urine as the result of causes which would have no effect upon the fully developed or adult organism or organ. What the clinical significance of this albuminuria in childhood and adolescence is can only be determined by clinical observation, by carefully investigating the cases at the time and watching them over a long period. Now, as regards the boys in whom albuminuria is found they appear to fall into at least two groups. In one the child appears to be robust and healthy, has a rigid artery and a high tension; these are the cases which Dr. Clement Dukes has recorded as being so frequently met with in schoolboys. In the other the children are not robust and healthy, but are feeble and pale, and in them the tension is low and the artery is not thickened. These two groups probably indicate not only different conditions but different prognoses. In no case is the albuminuria, strictly speaking, physiological; it is always pathological, though not necessarily renal. What we require to know is the course which these cases run in after-life. If albuminuria is so common in youth and adolescence and becomes so much less frequent in early adult life it follows that many of the cases have no very serious significance—in other words, that they get well. This, indeed, we also know from direct observation. Yet with those who have most experience there is evidently still some lurking doubt about the ultimate result in not a few instances. Granting that many, perhaps the majority, ultimately recover there remains another group in which the patients continue to pass albumin for many years and yet remain in good health and a third in which signs of renal disease ultimately develop. Making all allowance for exceptional cases such as these the significance of albuminuria in early life must for the present still remain doubtful.

II. Significance after 25 years of age—i.e., in adult life.—This is important in relation to life insurance. Before 25 years of age many cases may be curable; after 25 years of age the chances of renal disease increase rapidly. Conclusions drawn from cases under 25 years cannot be applied without consideration to cases over 25 years. There is a great difference of opinion professionally as to the significance and importance of the traces of albumin met with in otherwise apparently healthy persons applying for insurance and I think there is also much difference in practice. It would be important, therefore, to trace these cases in order to ascertain what becomes of them in after-life. In some instances this has been done. Thus, in Washbourn's series, out of 1070 cases 38 had albuminuria—that is to say, 3·55 per cent. Of these 38 cases 18 were traced; out of 18 cases 6 developed renal disease for certain and five more probably, giving a percentage of not less than 33 and possibly of 60. Washbourn calculated that the mortality-rate among these cases for the age was 17·54 per cent.—that is to say, it was nearly double the normal average. Munn found that out of 25 cases one died within the year following the examination, and four more died during the subsequent three years, while in all the rest the health had obviously deteriorated. In another series of 6400 adults examined between the years 1877 and 1893, 454 cases of albuminuria were found. Of 137 cases among these in which the urine was examined microscopically casts were found in 31—i.e., in about 23 per cent. Thus in round numbers albumin occurred in about 7 per cent. of all apparently healthy adults, and the probability of finding casts in the urine associated with albumin was about one in four. For the first eight years or so nearly all the cases were traced and the record is remarkably complete; after this many apparently were lost sight of. During those eight years the total mortality in cases under 40 years of age was 17 per cent. and in cases over 40 years of age 30 per cent.—a very considerable death-rate for presumably healthy lives. Evidently therefore the albuminuria largely increased the risk. In this class, taking eight years also, the mortality was still higher—viz., 20 per cent. and 50 per cent. respectively.

The following table has been calculated out for me by an actuary friend to show approximately as far as the figures permit the difference in mortality compared with healthy males, and to make the result more obvious they have been taken for differences of two years of age.

Ages attained *	Rate of following year.		Ages attained.	Rate of following year.	
	Rate from figures	Normal rate		Rate from figures.	Normal rate.
30	—	—	50½	3·70	1·97
32	1·56	1·06	52½	2·64	2·20
34	3·27	1·11	54½	3·74	2·43
36	3·33	1·15	56½	7·13	2·60

* Starting with an average of those given and assuming uniform increase for eight years.

Without laying any stress upon the actual figures these calculations show how largely the presence of albuminuria raises the mortality as well in those below 40 as in those above. We must conclude, therefore, that for the ages at which life insurances are generally effected—i.e., from 35 years upwards—the presence of even a trace of albumin in the urine is of considerable significance. It is more and more likely to mean disease as age advances, and therefore the risk to the office continually increases. Even at the earlier periods, from 25 to 35 years, it is a question whether these lives should be accepted even with a considerable addition, owing to the difficulty of excluding the commencement of granular kidney. Rabagliati threw his conclusions into the following form: (1) over 40 years of age reject; (2) under 40 years of age load heavily; and (3) in young adults rate up moderately. With the first recommendation I entirely concur. The second is necessary, but the loading might be prohibitive and tantamount to rejection for any age over 30 years. In respect of the third between 25 and 30 years there would have to be a fairly heavy loading, but between 18 and 25 years many cases could be safely accepted without any great risk. Each [illegible] this kind, however, [illegible] be[illegible] [illegible]ered on its [illegible] minuria is [illegible] [illegible]ered, [illegible] may be, and just as a diagnosis should not be made on a single physical sign, neither should a life be rejected on a single physical sign. At each age there may be innocent and harmful albuminuria, and it is the business of the physician to distinguish if possible between them.

The general conclusions to which these considerations lead are these: that the so-called physiological albuminuria is always pathological even if not always renal when the amount of albumin is more than the merest trace, and probably pathological even in these cases when there is but a *trace and no good cause obvious*. It is clear, therefore, that in every case the patient must be carefully examined, every possible cause of albuminuria searched for, and every other condition in the patient noted. If nothing else be found and the albuminuria exist alone it may possibly be harmless or accidental and of no serious significance. If renal derivatives are found as well as albumin it must be almost necessarily due to renal disease, and this is in all probability also the case even if no renal derivatives are found in patients in whom the arteries are thickened and the pulse-tension is high.

ALBUMINURIC RETINITIS.

Albuminuric retinitis brings me to another group of signs —viz., those of the later stage—for typical as albuminuric retinitis is it is of no help in the early diagnosis, as it only occurs late in the disease when the arteries are degenerate and the kidney mischief is far advanced. In its early stage and typical form albuminuric retinitis is characteristic and pathognomonic—i.e., it occurs in no other condition except that of chronic renal disease. The lesions of albuminuric retinitis consist in (1) white patches, (2) hæmorrhages, (3) exudations, and (4) inflammatory conditions. They generally develop in the order in which I have placed them. Of these changes the earliest and most characteristic are the white patches which are generally found in the region of the macula or yellow spot. The question arises whether albuminuric retinitis occurs in any other form of chronic renal disease than granular kidney. In amyloid disease I know of no instance recorded and I have not seen a case myself, but amyloid disease is rare nowadays so that my experience of it is small. In acute parenchymatous nephritis it is never seen, but it is stated to occur occasionally in chronic parenchymatous nephritis. The nature of the retinal change in both cases is the same—viz., small white patches symmetrically placed in both eyes. In their typical and favourite form they are arranged in a radiating *fashion around the yellow spot, like spokes in a wheel.* Then they are usually found in both eyes and are remarkably symmetrical in position. In very early stages they may be so minute as to be easily overlooked. The white patches may for a long time be the only lesion visible if we disregard for the present certain changes in the vessels which are probably still earlier and which will be referred to later.

Hæmorrhages generally occur at a later period. They are minute and flame shaped if seated in the upper layers of the retina, but if in the deeper layers they are larger and less regular, sometimes they are also numerous round about the yellow spot, but at other times they are scattered widely over the fundus; when they are of considerable size they naturally interfere seriously with vision. There is nothing characteristic about them, for similar hæmorrhages may be seen in grave anæmia and in optic neuritis of other origin. They may in time be absorbed, sometimes without leaving any trace behind. When exudations occur the appearances present a close resemblance to other forms of optic neuritis; thus the vessels may be covered with effusion, the discs be swollen, and the edges be indistinct and frayed out; yet even in the most extreme cases there is generally something in the appearance of the fundus to suggest the cause of the trouble. Early as the white patches are they are preceded and result from still earlier changes in the vessels. The lesions in the vessels have been carefully studied by Brailey and Edmunds, and are briefly described by them as obliterative arteritis leading to inflammatory degeneration of the structures supplied. The ophthalmoscopic appearances connected with these changes have been admirably described by Mr. Marcus Gunn. He thus connects them with the changes in the vessels: narrowness and irregular size of the vessels is explained by the thickening and by the diminished lumen; the tortuosity by the increased rigidity and loss of elasticity; the increased light reflex and the bright central streak by the fibro-hyaline change; and the distension of the veins by the great thickening and resistance of the artery as it lies upon them. The difficulty of circulation leads to the general œdema; the progressive disease of the vessel to hæmorrhage; and the defective nutrition of the nerve-cells and fibres to the white patches. The radiating arrangement, the white patches round the yellow spot, he refers to the radiating folds into which the retina in that region is thrown when œdema occurs there. The changes described, Gunn states, begin to be seen usually between the ages of 40 and 50 years, but they are not due to old age—i.e., to atheroma—for this does not produce them, but they *may occur much earlier in life* than this. The changes of which Gunn gives so good a description are really the early changes of granular kidney. It is obvious that the degenerative changes described, though generally bilateral and more or less symmetrical, might be unilateral, so that a high degree of albuminuric retinitis might be found in one eye while the other remained perfectly normal or nearly so.

The vascular changes of granular kidney are of great importance in relation to various hæmorrhagic affections of the eye—e.g., hæmorrhagic retinitis and hæmorrhagic glaucoma. Hæmorrhage occasionally occurs behind the eyeball in the orbital chamber. Spontaneous hæmorrhage under the conjunctiva, just as occurs in aged people as the result of atheroma, is not at all uncommon. Detached retina is an interesting but not altogether rare phenomenon in granular kidney. It is in most cases due to an effusion of serum beneath the retina and not, as might be expected, of blood. I have seen hæmorrhagic detachment of the retina but it is a rare affection. The early lesions of albuminuric retinitis produce no defect of vision and even in the later stages it is very remarkable how extreme the eye changes may be without a complaint being made of impairment of sight. Routine examination with the ophthalmoscope will often discover albuminuric retinitis when it is not expected and will make a diagnosis clear which may till then have been obscure. *As* a rule we may say that when patients complain of defect of vision the albuminuric retinitis is already very *far* advanced. When the vision once begins to fail it fails rapidly.

Amblyopia is often said to be a common symptom of uræmia and is usually regarded as either of peripheral origin in the retina or central in the brain or special ganglion. Most of these statements date from a time when the ophthalmoscope was not systematically used. Of toxic retinal amblyopia we know little or nothing, for most of the cases are associated with very definite lesions in the retina visible with the ophthalmoscope. The amblyopia of central origin—i.e., non-retinal—is often associated with other symptoms—e.g., hemiplegia. In such cases the amblyopia is also due to lesions of an organic kind. It is not rare when a patient dies from uræmia to find the symptoms which appeared to be merely toxic or functional explained by an organic lesion in the brain—viz., small hæmorrhages. In cases of amblyopia in which the defect of sight persists after the uræmic attack is past we must presume that there has been an organic lesion. In cases of toxic amblyopia recovery ought to take place in the course of a few hours or less, though instances are recorded in which recovery has been sudden and complete even after four days. Some clue as to place of origin of the amblyopia may be given by the condition of the pupil. It would be an interesting question to ascertain in what proportion of cases *of granular kidney* albuminuric retinitis occurs, but that is impossible, for we have not yet the figures upon which a conclusion could be based. I should say that in most cases of granular kidney, if the patients live long enough, albuminuric retinitis does ultimately develop, but a *large number* of patients with granular kidney die from other causes—e.g., from hæmorrhage in the brain, and so do not reach the state in which albuminuric retinitis develops. Albuminuric retinitis is said sometimes to disappear. On this point, I think, some caution must be exercised. Hæmorrhage, of course, may be absorbed and may disappear, whether due to granular kidney or not, but I have never seen the glistening white patches of granular kidney disappear, though instances are recorded by good observers. It is, of course, possible where eye changes occur in the course of chronic parenchymatous nephritis that if the primary disease gets well the eye changes also may disappear; but this is not so in granular kidney. The significance of albuminuric retinitis is always grave, not only in respect of sight but also of life. The duration of albuminuric retinitis, or of life after its appearance, it is not possible to *determine* accurately. Speaking generally, the duration of life after albuminuric retinitis has been discovered is short Where the patients are in a condition to take the best care of themselves life may be prolonged for some time, but such cases are quite exceptional, and, speaking generally, when albuminuric retinitis is found the patients have not many months to live

ON TWO NEW MODIFICATIONS OF ENTERORRHAPHY,

WITH A SHORT REVIEW OF THE SUBJECT

BY ALEXANDER MACLENNAN, M B GLASG, L M ROTUNDA

IS it a proof of imperfection in our present methods of intestinal anastomoses or enterorrhaphy that almost every day sees another plan added to those already described, or is it simply due to the attractiveness and fascination of the subject? There can be little doubt that modern operators continue to employ various methods, many of them their own or their own modifications of recognised and classical operations This divergence of procedure shows at least that no one method is so superior as to hold the field to the exclusion of others The earlier methods have had time to be tested and after all is said and done many modern operators[1] prefer the simple stitch of Lembert (a single line of sutures), the Czerny Lembert[2] (a double line of sutures), or the Czerny method as modified by Wölfler[3] These methods have been tested by experience and a striking proof of their efficacy is the fact that one or other of them is resorted to when a would be new method fails when attempted on the intestine of an animal Bier[4] thinks the Lembert suture excellent and he has employed it successfully many times Edmunds and Ballance[5] in an experimental research into the relative merits of the various recognised methods have found that the Czerny suture is apt to be followed by a diaphragmatic ring projecting as a ledge into the bowel and producing a degree of annular stricture This result probably arises from inserting the stitches too far from the cut margin

The great drawback to these operations is, however the time involved, while they require a considerable degree of manipulative skill It would be quite impossible even to mention all the various operations suggested for intestinal anastomosis without writing a large treatise on the subject For the purpose of this paper it will suffice to mention some of the leading types

By Senn s[6] method of lateral anastomosis with the aid of decalcified bone plates an immense number of experiments has been done and the testimony in its favour is considerable, while some observers[7] have enthusiastically advocated its adoption Baracz[8] in an exhaustive paper on this subject recommends it strongly and holds that Senn's invention is a great advance in intestinal surgery, but he states that perhaps where there is great relative disproportion between the ends to be united (as happens often in cases of strangulation) Senn s method of lateral anastomosis is not so suitable Reichel[9] however, thinks it difficult to avoid perforating the gut while sewing over the plates and also that the blind ends are apt to facilitate the formation of concretions which may eventually obstruct the new lumen Frey[10] mentions that sloughing may take place over the borders of the plates

Senn's method has been modified by numerous surgeons the chief alteration consisting in the substitution for bone plates of such substances as catgut (made into mats and rings),[11] raw potato[12] beetroot and turnip,[13] fresh ox hide and segmented rubber plates,[14] or segmented rubber rings[15] held together by strands of cat gut Jessett[16] in his work, however, states that bone plates are much the best Littlewood[17] and Jessett[18] join the two plates by means of a tube of bone and state that there is less chance of the two corresponding openings in the bowel becoming displaced (Senn has also modified Jobert's invagination method and his operation is usually described in the text-books)

There does not seem to be much published disapprobation of Senn's lateral method (with the exception of Reichel s)[19] but one rarely sees the operation performed Is this due to the complicated appearance of the description or to the general dislike of surgeons[20] to the employment of mechanical contrivances which are perfect only in theory? Operators like to see everything safe and prefer to take all the responsibility rather than depend on any instrument Anastomosis by Senn s method can be carried out fairly quickly, but the stitching which is essential naturally occupies some time The bone plates are somewhat bulky and must be to some extent a disturbing element in the healing process, while rings and mats of catgut are absorbed too quickly[21] It does seem strange that the ends of the intestine should be carefully sewn up and two new openings made all in order to allow of the use of the bone plates

The methods of lateral anastomosis of Abbe[22] and Halsted[23] involve even more sewing Halsted's method however, receives the support of Edmunds and Ballance[24] and of Greig Smith and Jessett[25]

Maunsell s[26] method, perhaps the best of the end to-end unions where simple suturing is resorted to, is generally conceded as being specially applicable to cases of intussusception It gives a perfect mucous "first line of defence" The extra longitudinal incision made to enable the suturing to be performed from within is however objectionable[27] The same fault can be found with Ullmann s[28] method which is an improved type of Maunsell s operation Maunsell s operation has also been modified by Jessett, Barker, and Bier[29] According to Edmunds and Ballance there is no resulting ring of contraction and they state that it is the best method for end to-end junctions

Of the many methods utilising the principle of invagination those of Nicoll[30] Paul[31] Robinson[32] and Senn are types Paul and Robinson employ bone or rubber tubes while Senn and Nicoll discard them The bone tubes &c, used by those operators are too long and there is in Paul's method the risk of invagination beginning in front of the tube and so producing an artificial intussusception The treatment of the bowel in Robinson s method is too rough and must greatly interfere with the blood supply of the parts which are left to unite Its principle has been described independently by Jessett Nicoll and Skelly[33]

Bishop s[34] method principally brought forward to avoid an annular contraction ring, is difficult and tedious[35] to perform

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[1] Marmaduke Sheild THE LANCET March 27th, 1897 p 882 Cripps Brit. Med. Jour vol i. 1896 p. 1201

[2] For literature see paper by Bier

[3] Wölfler cit. from Maylard Surgery of the Alimentary Canal, 1896

[4] Langenbeck s Archiv Band xlix 1895 p 739

[5] Observations and Experiments on Intestinal and Gastro-Intestinal Anastomoses Transactions of the Royal Medical and Chirurgical Society vol lxxix. Brit Med Jour vol i 1896, p 1200

[6] Transactions of the Ninth International Medical Congress of Washington vol i p 460 Experimental Surgery Chicago 1889 p 309 Journal of American Medical Science June, 1890. See also paper by Baracz for full list of references

[7] Baracz and Rasumowsky loc cit

[8] Langenbeck s Archiv 1892.

[9] Ueber den Werth der Senn schen Darmnaht und Bildung einer Darmanastomose Munchener Medicinische Wochenschrift 1890 p 169

[10] Ueber die Technik der Darmnaht Beitrag zur Klinischen Chirurgie, Band xiv No 1

[11] Davis Times and Register vol xx No 695 Jan 25th and Feb 1st 1890 New York Medical Record 1889 Abbe: New York Medical Journal March 29th 1889; Medical Press and Circular 1892 vol ii p 188 (for method of lateral anastomoses) Matas Circular Enterorrhaphy with catgut rings, New Orleans Medical and Surgical Journal July, 1889 and Aug 1st 1890

[12] Rasumowsky Die Bildung der seitlichen Darmanastomose mittelst Kartoffelplatten Langenbeck s Archiv vol i, 1895. Dawbarn Medical Record New York June 1891 Annals of Surgery, 1893 vol xvii p 147

[13] Baracz Langenbeck s Archiv 1892, p 581

[14] Robinson North American Practitioner vol. ii, No 10, p. 451 New York Medical Journal 1890, vol iii, p. 429

[15] Brokaw Medical News, Dec. 7th 1889

[16] Surgical Diseases of the Stomach 1892.

[17] THE LANCET April 16th, 1892, p 860.

[18] Surgical Diseases of the Stomach

[19] Loc cit

[20] Cripps Brit Med Jour vol i 1896 p. 1201

[21] Baracz Langenbeck s Archiv 1892 p 546

[22] New York Medical Journal 1889

[23] Cit from Jessett.

[24] Loc. cit

[25] Brit Med Jour vol i 1896, p 1200

[26] International Journal of Medical Science 1892, New Series vol ciii p 245 Transactions of the Inter-colonial Medical Congress of Australasia 1889.

[27] Jessett: Surgical Diseases of the Stomach p 273.

[28] Cit from Schallemose Jahresbericht der Medicin 1898 Zur Technik der circularen Darmvereinigung Centralblatt fur Chirurgie No 51

[29] Cit from Maylard p 532.

[30] Transactions of the Glasgow Medico-Chirurgical Society, vol i, p 76

[31] Liverpool Medico-Chirurgical Journal [illegible] vol xii, p 477

[32] Annals of Surgery 1891 vol xiii p 88.

[33] Ibid September 1893.

[34] Transactions of the Royal Medical and Chirurgical Society vol lxx

[35] [illegible]

Mayo Robson[36] has recommended and used decalcified bone bobbins over which the intestine is sutured. In desperate cases where the saving of time is of paramount importance he does not mind risking only a single line of deep sutures.

Allingham[37] has modified the bobbins and Hayes[38] is responsible for yet another variation. There must, however, be considerable pressure of the bowel between the resisting bobbin and the operator's fingers during the process of suturing. Harrison Cripps[39] thinks the bobbins are apt to become impacted and also to cause necrosis of the intestine. Edmunds and Ballance agree with him and also with Bidwell who asserts that bobbins tend to obstruct the lumen. To overcome this objection Downes[40] sutures over a ring and subsequently makes an incision in the gut in order to remove this ring. Landerer[41] of Leipsic uses potato or turnip bobbins.

Probably the greatest step forward[42] has been made by Murphy[43] by the introduction of his metallic button, though one writer describes it as the "most popular ...... most dangerous" button.[44] The general distrust of all instruments delayed for some time its adoption both in this country and on the Continent, but within the last few years it has been extensively employed and there is a corresponding mass of literature on the subject. By this time probably all the merits and demerits of the instrument have been fully discussed and chronicled. The button being of metal is heavy, and Abbe[45] reports a case where its weight caused the intestine to kink with subsequent obstruction. It is generally admitted that it is prone to cause ulceration,[46] especially if too large a button be employed. Many of the instruments now in the market are quite unreliable and so faultily made that they do not bite equally all round.[47] In this way the button may eventually come to hang loose in the lumen like the tongue of a bell. To close the two valves firmly enough so as to get the quickest and best union pressure has to be transmitted through the intestine and this might be brought forward as an objection. Murphy did not intend that a Lembert suture should be used to complete the operation, and, indeed, Marwendel[48] has demonstrated a case where this superadded "safety" suture was the cause of a perforation. Orzet[49] also thinks it not only unnecessary but dangerous to employ any such suture over the Murphy button. Bishop[50] in bringing forward the merits of his internal suture states that adhesions to the omentum or surrounding the seat of union almost always follow enterorrhaphy, and he affirms that external sutures increase this tendency. Graff,[51] on the other hand, thinks the Lembert suture safer and always adds it. To put in this suture requires more time and necessitates more manipulation of the intestine-covered button. In gastric operations Jonnesco[52] thinks it a drawback that the incision in the stomach to admit the button requires to be so much larger than the available lumen of the new passage. A drawback of some moment seems to be the narrowness of the lumen of the instrument relative to its circumference.[53] Graff[54] cites a case of Duvivier[55] where obstruction was produced and he mentions two other cases where the passage through the button became completely occluded by intestinal contents.[56] This he states as likely to occur in the colon and the lower reaches of the ileum. He thinks a tendency to enlarge the button to get a larger lumen would accentuate its *action as a foreign body*. Notwithstanding these defects Graff gives the button a whole-hearted recommendation and thinks it the best *means* at our disposal. He cites cases of gastric operations where the button has fallen back into the stomach and remained there during life without causing symptoms. On post-mortem examination no change was found to have followed its presence in that organ. Kümmel[57] has also observed the backward fall of the button into the stomach, and Allis[58] reports a case were the button remained 16 months in that viscus. If, however, such a button has difficulty in passing through the new exit from the stomach it will meet with a similar obstacle at the ileo-cæcal valve. Most surgeons do not feel quite free from anxiety until the button passes *per viam naturalem*. Graff warns operators that the use of the Murphy's button requires practice and that if the two valves are too firmly pressed together sloughing occurs too soon, while if not firmly enough good union does not take place or there may be leakage. Regarding the question of secondary contraction at the seat of junction Bretano[59] found that in 398 collected cases it occurred only three times. Frank,[60] in demonstrating his method which acts much in the same way, denies the possibility of the occurrence of secondary stricture and probably such a tendency *is* very remote. Naturally there are a great and rapidly increasing number of modifications of Murphy's button.

Chaput's[61] latest design is lighter (and less expensive), as effective, and has a relatively larger lumen, while its mechanism is simpler.

Boari[62] has made the tubal portion of the button of metal while the remainder consists of bone only partially decalcified. This instrument he *affirms* does not tend to *remain* for indefinite periods in the abdomen but only long enough for its purpose.

Martin Gil[63] has described the manner of use of a button of decalcified ivory.

Frank[64] has described and demonstrated his modification which consists of two solid end-pieces of decalcified bone joined by a rubber tube, sufficiently short to ensure their close apposition and to prevent their separation except by stretching the tube. The action of this appliance is the same as Murphy's button. It is light and cannot certainly remain long in the bowel, but the separation of the valves is difficult and requires such force that damage[65] may result to the intestine while the available lumen is small. It is not to be recommended for gastric operations.[66]

Jackson Clarke,[67] from experiments on the cadaver, gives an account of a new method which from the description promises well. His adjustment of the two rings over his rubber bobbin might in some circumstances require an amount of force, the employment of which would be injudicious. The rubber mechanism must tend to constitute a considerable foreign body.

So far, then, there seem to be objections to every method and no one method can be said to be of universal application. Different inventions may *adapt* themselves to different conditions and certainly the science of surgery is not the poorer because of the multiplicity of procedures for intestinal anastomoses. Edmunds and Ballance in their investigation already referred to attempted to solve the comparative value of the many methods in vogue. As a result they advocate Maunsell's method for end-to-end and Halsted's for lateral anastomosis. The conclusions arrived at from their investigation might be accepted as accurate were it not that the conditions found in animals differ so greatly *from* those in man.

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[36] Brit. Med. Jour., vol. i., 1893, p. 989, and vol. ii., 1895, p. 963.

[37] THE LANCET, August 31st, 1895, p. 518.

[38] THE LANCET, Dec. 28th, 1895, p. 1619.

[39] Brit. Med. Jour., vol. i., 1896, p. 1201.

[40] Medical and Surgical Reports, July, 1896.

[41] Centralblatt für Chirurgie, No. 13, 1895.

[42] *Gamgee, in a letter to* THE LANCET of Oct. 19th, 1895, *has drawn attention to an early method known as Denans's, described in Chélius's System of Surgery, p. 464, vol. i., 1847, where the principle of the Murphy button seems to have been utilised.*

[43] New York Medical Record, 1892 and 1894. THE LANCET, April 27th, 1895, p. 1042.

[44] Skelly: loc. cit.

[45] Annals of Surgery, 1894, p. 515.

[46] Jordan: THE LANCET, Oct. 30th, 1897, p. 1093. Waitz: Deutsche Medicinische Wochenschrift, 1897, p. 178V. Mayo Robson: Brit. Med. Jour., April 4th, 1896, p. 845. Jackson Clarke: THE LANCET, May 9th, 1896, p. 1277.

[47] Marwendel: Langenbeck's Archiv, vol. lv., 1897, p. 387. Vortrag: Klinische Erfahrungen über den Werth des Murphy'schen Darmknopfes.

[48] Langenbeck's Archiv, vol. lv., 1897.

[49] Experimentelle Untersuchungen mit dem Murphy-knopfe, Kronika Lekarska, No. 13. Jahresbericht der Medicin, 1896, p. 333.

[50] *Transactions* of the Royal Medical and Chirurgical Society, vol. lxx., p. 352.

[51] Der Murphy'schen Knopf und seine Anwendung. Langenbeck's Archiv, vol. lii., p. 301.

[52] Cit. from Wiesinger, Deutsche Medicinische Wochenschrift, 1897, p. 127V.

[53] Boari: Deutsche Medicinische Wochenschrift, 1897, 178V.

[54] Loc. cit.

[55] Contribution à l'étude de la Gastro-entérostomie avec le Bouton de Murphy (thèse pour le Doctorat en Médecine), cit. from Graff.

[56] Murphy gives laxatives from the first and ensures that the fæces remain liquid (THE LANCET, April 27th, 1895, p. 1046).

[57] Anwendung des Murphy'schen Knopfes bei der Operation des Carcinoms, Langenbeck's Archiv, 1896, p. 91–95.

[58] Annals of Surgery, 1896, p. 477.

[59] Cit. from Marwendel, Langenbeck's Archiv, vol. lv., 1897, p. 387.

[60] Deutsche Medicinische Wochenschrift, 1897, p. 224V.

[61] Un Nouveau Bouton Anastomotique pour les Opérations Intestinales, Bulletin de Mémoire de la Société de Chirurgie, p. 285, 746.

[62] Modificazioni al Metado Anastomotico di Murphy, La Clinica Chirurgia, 1897, cit. from Freudenberg from Deutsche Medicinische Wochenschrift, 1897, L. 163.

[63] THE LANCET, August 28th, 1897, p. 522.

[64] Deutsche Medicinische Wochenschrift, 1897, p. 224V.; Medicine, January, 1897.

[65] Boari: Deutsche Medicinische Wochenschrift, 1897, p. 169V., cit. Freudenberg.

[66] Frank: Deutsche Medicinische Wochenschrift, 1897.

[67] THE LANCET, May 9th, 1896, p. 1277.

For the methods about to be described perfection cannot be claimed, yet the suggestions given may in some circumstances be found applicable and may add to the wealth of resource already at the command of the surgeon. It had been intended to operate on dogs but the thick muscular and mucous coats which rather facilitate suturing experiments almost prohibit those by a method of invagination The same objection applies to the cat [68] In the rabbit the relative conditions more resemble the human though, of course, the intestine is very small On account of the thinness of the intestinal wall the rabbit cannot overcome any resistance and is very liable to ileus [69] The upper part of the jejunum is very friable and readily tears Any operation successful in such an intestine will certainly be much more so in the human subject [70] Both of the following methods utilise the invagination principle The first has the minimum of stitching while the second has none at all Clamping of the intestine previously to union was not resorted to

I (*A*) *Treatment of the proximal end of the intestine* (It is essential to differentiate between the proximal and distal extremities, as in two cases death ensued from mistaking the distal for the proximal) —Into the proximal end of the gut is inserted a short, light, decalcified bone tube (Fig 1) of a diameter somewhat less than that of the intestine in its normal condition The use of too large a tube adds difficulty to the technique and perpetuates a distension of the gut which is detrimental. In the case of the rabbit the length of the bone tube employed was about twice that of the diameter, but for operations on a larger gut the tube can be greatly shortened so that the length does not exceed the diameter The thickness of the tube need only be sufficient to give it stability and allow of the grooving Rubber, potato, or turnip tubing might of course answer the purpose equally as well as decalcified bone The tube is then fixed in position by ligaturing the intestine firmly into groove A which is not so deep as B (Fig 2)

FIG 1

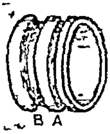


FIG 2

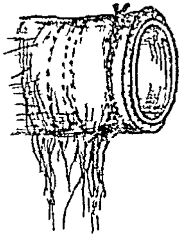
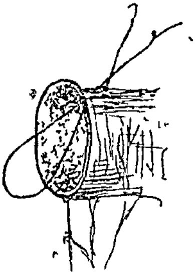


FIG 3



B The treatment of the distal end —About from one quarter of an inch to one third of an inch (in the rabbit not more than one-quarter of an inch) from the edge, at a point opposite the mesenteric attachment the two ends of a loop of silkworm gut (threaded on a needle) or of silver wire are passed through the entire thickness of the bowel, as in Fig 3 The loop is then drawn within the lumen of the gut and is made to distend by a backward push the wall of the intestine, as shown in Fig 4 When so distended the part of the intestine outside the loop allows itself to be easily involuted into the intestine through the distending ring (Fig 5) Into this gut lined ring is next inserted (as in Fig 6) the proximal end till the wire or silkworm gut comes to lie round the groove B (Fig 1) in the bone tube The wire or gut is now firmly tied By this means the invaginated layer of the distal end together with the layer covering the bone tube are firmly compressed into the groove The ligature is then cut short and the small opening through

FIG. 4

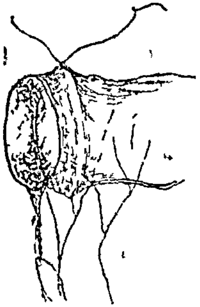


FIG 5

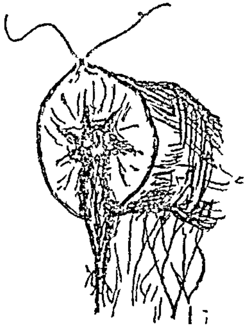
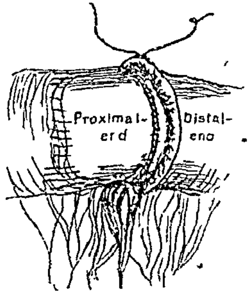


FIG 6



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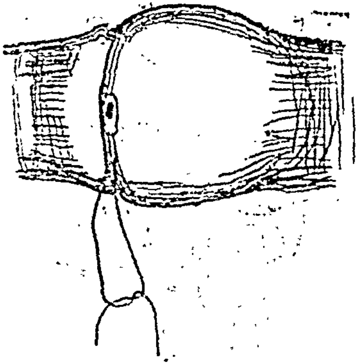
[68] Reichel: Münchener Medicinische Wochenschrift 1890, p. 196.
[69] Bier: Langenbeck's Archiv Band xlix, 1895, p 759.
[70] Ibid p. 741.

which it passed is closed by a purse-string suture as in Fig. 7. The mesentery is then united and the loop is returned to the abdomen.

FIG. 7.



II.—This is a modification of the first method. The treatment of the proximal extremity is the same as in that method. The difference lies in the employment, instead of wire or gut, of a round rubber ring which is inserted into the distal end about from one-quarter of an inch to one-half of an inch from its free margin (Fig. 8). The ring should be of such a diameter as to fit closely into the groove B (Fig. 1) of the naked bone tube and of sufficient strength to grasp it firmly when there are two layers of intestine interposed. The free one-quarter of an inch to one-half of an inch of intestine is then invaginated into the ring and is kept in position by means of three or four hooks (Fig. 9). These are also used to keep the gut-lined ring sufficiently distended while the proximal end is being inserted. The hooks are removed when the insertion has proceeded far enough to allow the contracting ring to press the intestine into the groove B (Fig. 1) in the bone tube. The mesentery is then united and the loop of intestine is returned to the abdomen. To avoid injury of the intestine the hooks, though sharply pointed, must curve only sufficiently to surround the ring and perforate alone the inner layer of bowel as illustrated in Fig. 10. When dealing with a larger bowel than a rabbit's blunt hooks would answer the purpose.

FIG. 8.

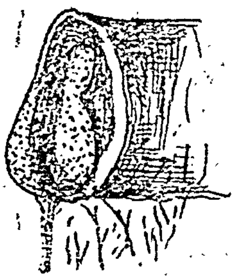
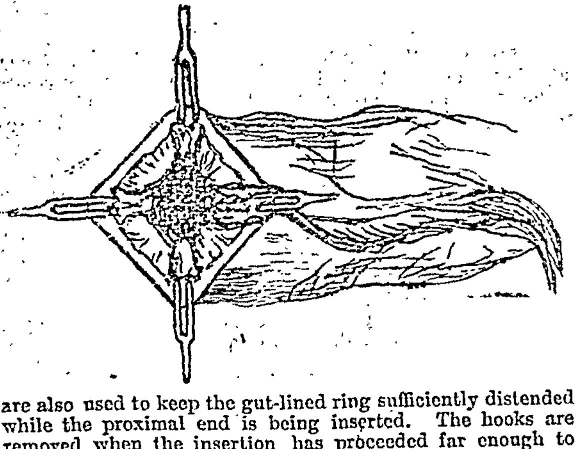


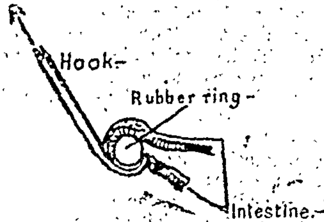
FIG. 9.



The details of the operations which I performed on each rabbit are as follows. In all cases full-sized rabbits were employed and were operated upon under ether. The wounds in each case healed by first intention. In one or two abdominal herniæ developed. None of them were "nursed" and they were allowed to take their usual food immediately after operation.

No. 1.—Laparotomy with section of the loop of the small intestine and then enterorrhaphy by the first method were performed on July 1st, 1898. The animal died on the next day. Post mortem the abdomen was greatly distended, due to distention of the stomach and of about 24 centimetres of intestine to the seat of junction. It was found that the lower or distal end of the gut had been in error invaginated into the upper and the minute bone tube was displaced laterally while its lumen was stopped with intestinal contents. On cutting out the junction and testing with a stream of water under slight pressure the union was found not to leak.

FIG. 10.



No. 2.—This was a laparotomy with section and junction by the first method performed on July 4th, 1898. The appendix was injured by mistake and part had to be excised. The stump would not close satisfactorily so it was stitched to the abdominal wound. This animal had previously (on May 28th) had a thyroidectomy performed on it without showing any symptoms of strumipriva. It was the only rabbit available at the time. On July 8th the animal was found dead. Post-mortem examination showed the stomach and intestines to be generally distended. There were no general adhesions, but slight adhesions round the junction. There was no obstruction and no leakage with the water test. The bone tube was still in position. The stump of the appendix was free in the abdominal cavity and death was obviously due to this.

No. 3.—(*a*) On July 9th, 1898, a laparotomy operation by the first method was performed. (*b*) On August 2nd, 1898, the abdomen was reopened (abdominal hernia). The peritoneum was healthy. The operation was by the second method. The animal died from excess of ether during closure of the abdomen. A post-mortem examination was made on the same day. The first junction (the operation of July 9th), 40 centimetres from the pylorus, had healed and was adherent to the intestine above and below—the whole forming an S-shaped loop. (Coccidiosis of the liver with hydatids of the mesentery were present.)

No. 4.—(*a*) This was a laparotomy by the first method performed on July 9th, 1898. The intestine was friable. Two Lembert sutures had to be put in as the gut tore while the ligature was being adjusted (these sutures passed from the distal to the proximal intestine and brought a covering of peritoneum over the rather large perforation). (*b*) On August 5th the abdomen was reopened. The peritoneum was healthy. The second method was employed and was performed with the greatest ease. On August 7th the animal died. Post mortem there was no peritonitis, but the stomach and intestine were distended. The first junction, 40 centimetres from the pylorus, was one of perfect union. There were light adhesions to the intestine on one side only. The second junction was higher up. Death was due to the lower end being invaginated by mistake into the upper.

No. 5.—(*a*) This was a laparotomy operation by the second method carried out on August 5th, 1898. The intestine (evidently the upper part of the jejunum as the contents were semi-digested only) was very friable; it repeatedly tore and the junction had to be cut out several times as the bone tube was slightly too large. The junction was eventually performed with the greatest ease when a smaller tube was used. (*b*) On August 25th the abdomen was reopened (abdominal hernia was present). The peritoneum was healthy. The second method was easily performed for the second time. On Oct. 1st the animal was killed. The following report of the post-mortem condition was kindly sent to me by Dr. Ludwig Pick, Director of the

"Laboratorium der Professor Dr. Landau'schen Frauenklinik," Berlin: "The seat of the first operation was situated one and a half inches below that of the second. While the place of the first operation was found with difficulty and showed only a very slight constriction the place of the second felt more solid, seemed retracted, and was surrounded by various adhesions with visceral and parietal peritoneum. The gut was permeable at both places equally well without a sign of stenosis."

From the above-mentioned experiments I would draw attention to the danger of mistaking the distal for the proximal end in all cases where the invagination method is employed. A fatal result following this mistake has been observed by Jessett,[71] Robinson,[72] and Senn in their experiments on animals. The direction of the intestinal current before performing such an operation should always be clearly observed.

It is claimed for the method I have described that it is easy and rapid while the requisite apparatus is of the simplest and lightest description. There is the minimum of handling of the intestine and so therefore the minimum of injury. The intestine of the rabbit is so delicate that the slightest tension or pressure ruptures the blood-vessels. Operations on them, if they are to be successfully performed, require special attention to technique, while the extra freedom which might be permissible on the larger and stronger human intestine would make the adoption of this method in the latter case so much the easier.[73] A "safety" stitch over the junction is probably more dangerous than otherwise, and in the rabbit would only lead to perforation and escape of intestinal contents. The progressive nature of the pressure in the second method between the two serous surfaces at the seat of union is a further advantage. The elastic ring ensures perfect uniformity of pressure and prevents any tendency to hæmorrhage which, according to Greig Smith,[74] is excessive where the bowel is congested. Hæmorrhage after simple stitching must cause at least microscopic separation of the two surfaces to be united.

The greatest objection to all methods depending on gangrene for removal of the means of union is stated to be the liability of the gangrene to extend outwards beyond the control of the apparatus into a dangerous region. This will be all the more likely to occur when the intestine has been subjected to pressure or where the integrity of the serous surfaces has been impaired by the addition of so-called safety sutures. The bone tube being a perfect cylinder occupies the minimum of space, ensuring at the same time the maximum of lumen through which the delayed intestinal contents can readily pass into the bowel beyond. As the tube is covered with intestine it is practically not in contact with the healing line and certainly cannot by its presence influence that process at all. There is no foreign body (in the second method) other than a flexible rubber ring to be voided, and this cannot possibly give rise to obstruction, nor should trouble follow the use of silkworm gut or silver wire as in the first method. Neither operation has been utilised to affect a union of intestine with stomach, but doubtless either could be readily adapted to the special requirements of such a case.

My best thanks are due to Professor Hermann Munk, Director of the Physiological Laboratory in the Königliche Thierarzenei Hochschule of Berlin, for permission and facilities to carry out these investigations. The second operation in the last rabbit was performed in the pathological section of the laboratory of Professor Landau at his request.

Glasgow.

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[71] Surgical Diseases of the Stomach.

[72] Loc. cit.

[73] Bier loc cit.

[74] Abdominal Surgery, p. 411.

TAUNTON AND SOMERSET HOSPITAL.—The annual meeting of this institution was held on Feb. 9th, under the presidency of Mr. F. H. Cheetham. The financial statement showed that the income during the year amounted to £6174, against £3578 in 1897, and the total expenditure was £4310, against £4202 in the previous year. The medical report stated that 828 in-patients had been admitted, against 783 in 1897, the daily average in the hospital being 81. The out-patients numbered 3968, against 4167 in the preceding year. Colonel Welby, M.P., was elected president for the ensuing year.

THE OPERATIVE TREATMENT OF TYPHOID PERFORATION OF THE INTESTINE,

WITH A REPORT OF THREE CASES; ONE SUCCESSFUL.

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OPERATION for the relief of typhoid perforation of the intestine was first proposed by Leyden[1] in 1884 and was carried out by Mikulicz[2] in the same year, although the latter only made a diagnosis of typhoid fever from the conditions which he found after he had opened the abdomen. The first surgeon who operated for a perforation previously diagnosed was Lücke[3] in 1885. A considerable number of cases have now been reported and on the whole we may say that the results have improved during recent years. From time to time the published cases have been collected and analysed by Van Hook,[4] Abbe,[5] Monod and Vanverts,[6] Finney,[7] Gesselewitsch and Wanach,[8] and Keen.[9] Keen in January, 1898, collected 83 cases with 16 recoveries. To his list I am able to add three cases of my own and 17 published by others, giving a total of 103 cases with 21 recoveries. My own cases are as follows.

CASE 1.—A man, aged 37 years, was admitted to the Monsall Fever Hospital, Manchester, at midnight on Nov. 15th, 1898. The history given was that the illness had commenced on Nov. 5th with headache and pains in the limbs, followed on the next day by slight diarrhœa. When admitted the patient was suffering from an apparently mild attack of enteric fever. The temperature was 102° F.; the tongue was moist and coated, the abdomen was fairly soft, there were a few rose-spots, the spleen was a little enlarged to percussion but was not felt, and numerous rhonchi were to be heard on auscultation of the lungs. Widal's test gave a positive reaction. On the next day (Nov. 16th) at 8 P.M. the patient complained of sharp shooting pains below and to the right of the umbilicus; two hours later the temperature rose to 104·6°. On the 17th at 11 A.M. the patient vomited once. The abdomen was hard and distended, the tongue was dry, and the bowels were constipated. The pulse was 96 per minute, regular, of good volume, but slightly dicrotic. At 1 P.M. the liver dulness had disappeared and perforation was diagnosed. Dr Marsden, the resident medical officer, therefore sent for me to see the patient with a view to operation.

On Nov. 17th at 6 P.M., probably 22 hours after the onset of the perforation, I proceeded to operate. An incision four inches long in the right semilunar line was made. On opening the peritoneum there was an escape of gas, followed by a little feculent fluid; the intestines were greatly distended. It was necessary to eventrate a considerable portion of the small intestine before the perforation could be discovered. The perforation was about a quarter of an inch in length and was situated opposite the mesenteric attachment in a loop of ileum lying near the pelvic brim; its distance from the cæcum was not ascertained. The neighbouring coils of intestine were covered by a fair amount of dirty fibrinous lymph. There was evidence of several other ulcers in the intestine; the edges of the perforation were turned inwards and the peritoneal surfaces were united by a continuous silk suture introduced by an ordinary sewing-needle. Considerable trouble was experienced in returning the intestines to the abdomen because of their great distension. The eventrated intestines and also the peritoneal cavity were irrigated freely with hot saline solution. A rubber drainage-tube was introduced, passing down towards the pelvis, and the rest of the wound was sutured. The operation lasted

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[1] Deutsche Medicinische Wochenschrift, 1884, pp. 258-262.

[2] Volkmann's Sammlung Klinischer Vorträge, No. 262, Chirurgie No. 83.

[3] Deutsche Zeitschrift für Chirurgie, 1887, Band xxv., p. 1.

[4] Medical News, 1891, vol. lix., pp. 591-595.

[5] Medical Record, 1895, vol. xlvii., p. 1.

[6] Revue de Chirurgie, 1897, tome xvii., pp. 169-192.

[7] Annals of Surgery, 1897, vol. xxv., pp. 231-269.

[8] Mitteilungen aus den Grenzgebieten der Medicin und Chirurgie, 1897, Band ii., pp. 32-66.

[9] The Surgical Complications and Sequels of Typhoid Fever, 1898, pp. 212-243.

50 minutes. On the 18th and 19th the patient was fairly comfortable. The temperature varied between 98·4° and 99·8°; the discharge from the wound consisted of a little thin, yellow, slightly opalescent serum. On the 20th the abdomen was greatly distended, the tongue was dry, and there were retching and slight sickness. Some relief was obtained from an enema containing turpentine. From this date the patient progressed favourably until Dec. 2nd when there was a relapse of the fever which lasted for three weeks. The drainage-tube was removed on Nov. 30th and gauze-packing was substituted. The wound was healed on Dec. 26th.

The discharge throughout had been small in quantity. After the subsidence of the relapse the patient progressed rapidly to complete recovery. He was discharged from hospital on Jan. 20th, 1899, 64 days after the operation. He was shown at a meeting of the Manchester Medical Society on Feb. 1st and was then perfectly well with the exception of a slight tendency to bulging of the abdominal wall at the seat of operation.

CASE 2.—The patient was a male, aged 17 years, whose illness commenced on Oct. 22nd, 1898, with headache, constipation, and dizziness. Four days later he had to lay up because of abdominal pain and cough. On admission to Monsall Fever Hospital he was suffering from typhoid fever of a severe type. The abdomen was full and firm, the tongue was dry and coated, the pulse was 96, the temperature was 103·4° F., the spleen was palpable, and there was bronchitis. Until Nov. 19th there was no marked change in the patient's condition. At 4 P.M. on that day he vomited once; the abdomen was not distended but it was fairly firm and liver dulness was present. At 9 P.M. there was retching, the abdomen was distended, and there was resonance over the liver. At 11 P.M. the abdomen was more distended and was very tender and there was hiccough. The pulse was 140 per minute.

On Nov. 20th at 10 A.M., 18 hours after perforation, an incision four inches long was made in the right semilunar line. There were gas and fæces in the abdomen; the intestines were not much distended. The perforation was found at once in a loop of ileum passing from the iliac fossa into the pelvis; it was situated near the pelvic brim. An attempt was made to close the opening by a continuous suture, but the bowel-wall was so rotten that some of the loops cut out. With some difficulty the opening was closed by interrupted Lembert's sutures, its edges being turned inwards. The abdomen was washed out with hot saline solution, a drainage-tube from the wound into the pelvis was inserted, and the rest of the wound was sutured. The operation lasted 40 minutes.

After the operation the patient was much collapsed and about half an hour afterwards two pints of saline fluid were infused into the median basilic vein. He rallied somewhat for a time, but he died at 7.15 P.M. on the same day, eight and a half hours after the completion of the operation.

The necropsy showed general peritonitis, six or seven other ulcers in the ileum, and the perforation to be situated nine inches from the cæcum. The sutures were sound and the perforation was sealed.

CASE 3.—The patient was a man, aged 22 years. Illness commenced on Nov. 1st, 1898, with headache, diarrhœa, and shivering. He was admitted to Monsall Fever Hospital on Nov. 10th suffering from a severe attack of typhoid fever; he was very restless, the tongue was dry and dirty, there were rose-spots, the abdomen was tense, the spleen was felt on palpation, and there were diarrhœa and vomiting. On the 20th at 2 A.M. there were stabbing pains in the abdomen. At 1 P.M. the abdomen was distended, firm, painful, and tender; the face was drawn and pale; and there was a tympanitic area over the left lobe of the liver. At 6 P.M. liver dulness was absent. At 10.15 P.M. there was retching.

On Nov. 20th at 11.30 P.M., 19 hours after perforation, an incision in the right semilunar line four inches long was made. There were gas and about a pint of feculent fluid in the abdomen; the intestines were not much distended. The perforation was easily found in a loop of ileum situated near the pelvic brim; its edges were turned inwards and interrupted Lembert's sutures were applied. The abdomen was well flushed out with warm salt solution, a drainage-tube was inserted into the pelvis, and the rest of the wound was sutured. The operation lasted 45 minutes. The patient rallied for a time, but then sank and died on Nov. 22nd at 11.50 P.M.

At the necropsy the perforation was seen to be about nine inches from the ileo-cæcal valve. The sutures were sound. There was peritonitis which was limited to the pelvis and the right iliac region; the ascending colon and the right half of the transverse colon were distended, but the rest of the colon and the sigmoid flexure were small, empty, and contracted, with apparently a kink at the middle of the transverse colon. There was a large number of typhoid ulcers.

I have to thank Dr. Marsden for the notes of the above cases with the exception of those relating to the operations. The successful result in the first case was due just as much to his diagnostic skill and to his careful and judicious after-treatment as to the operation which was performed. In the second case it is clear that there could be but little hope of a favourable issue. The third case is interesting because although unsuccessful it shows that the peritonitis following perforation may be limited by operation even after the escape of a large amount of fæcal matter. The cause of the kinking of the transverse colon is uncertain. In Dr. Marsden's opinion it had nothing to do with the operation, and, but for its occurrence, the man would have had a fair chance of recovery.

Perforation from the point of view of operation.—From the statistics given by Fitz,[10] it would appear that intestinal perforation is the cause of death in about 6·58 per cent. of fatal cases of typhoid fever. The same writer states that perforation is most common during the second, third, and fourth weeks of the disease, the largest number of cases occurring during the third week. In the great majority of cases the perforation is situated in the ileum within two feet of the ileo-cæcal valve. In a smaller number of cases it occurs in the appendix, the cæcum, the colon, or higher up in the small intestine. In 29 out of 167 cases collected by Fitz more than one perforation was present; in 10 cases three or more ulcers had given way.

It would appear that there is no definite relation between the severity of the individual attack of fever and the occurrence of perforation. Not infrequently it is noted that perforation occurs during an attack which is apparently following a mild course, and it is in such cases that operative interference is most likely to be attended with success.

That perforation does occasionally lead to localised peritonitis, the general peritoneal cavity being shut off by adhesions, is certain, although the cases in which it has been proved beyond doubt are few in number. One such case was recently reported by Elsner.[11] The patient died from hæmorrhage some days after there had been symptoms of perforation, and at the necropsy localised peritonitis around a perforated ulcer was found, the peritoneal cavity being completely shut off. In Watson's successful operation case[12] the peritonitis was strictly limited by adhesion of the perforation to the anterior abdominal wall. (In all the other successful cases it would appear that peritonitis had spread more or less widely.) Probably in some of the localised cases peritonitis occurs first from extension of inflammation through an ulcerated but unperforated intestinal wall leading to the formation of adhesions, and perforation takes place subsequently. In the great majority of cases, however, perforation leads to a more or less diffuse peritonitis, and under such circumstances a fatal issue is almost, if not quite, inevitable. Dr. J. F. R. Gairdner[13] has collected from the clinical and pathological records of Belvidere Fever Hospital, Glasgow, 47 cases of peritonitis occurring in typhoid fever and has studied them from the point of view of operative interference. As a result of his investigation he has come to the conclusion that in 49 per cent. of the cases laparotomy would have offered a fair chance of recovery, and that in 19 per cent. of the whole number the chance would have been distinctly good. Dr. S. Phillips[14] of the London Fever Hospital, speaking at a discussion at the Royal Medical and Chirurgical Society, said that he recognised two types of perforation cases: 1. Those with tympanitic abdomen; in such cases leakage is largely prevented owing to the distension of the intestines and operation is likely to be successful. 2. Those with doughy abdomen and no striking symptoms, the patients dying from asthenia; under such circumstances extravasation occurs freely and the conditions are unfavourable to operative interference. These observations I regard as of very great value; my successful case was clearly of the first type, whilst my unsuccessful cases approached more nearly to the second type. Distension of the intestines must therefore be regarded, contrary to the statements of some writers, as rather improving than diminishing the chances of a successful operation.

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[10] Transactions of the Association of American Physicians, 1891, vol. vi., pp. 200-215.

[11] New York Medical Journal, 1892, vol. lv., p. 400.

[12] Boston Medical and Surgical Journal, 1896, vol. cxxxiv., p. 317.

[13] Glasgow Medical Journal, 1897, vol. xlvii., New Series, pp. 97-116.

[14] THE LANCET, Jan. 30th, 1897, p. 313.

Objections to the operation.—The chief objections which have been advanced are (1) the difficulties in early diagnosis of perforation, (2) the bad general condition of the patient, (3) difficulties in finding the opening, (4) the diseased condition of the walls of the gut, (5) the occasional occurrence of multiple perforations, (6) the presence of a grave peritoneal lesion, and (7) that some cases diagnosed as perforation have recovered. These objections are more apparent than real and in almost every case are sufficiently answered by pointing to the results of operation.

Into the question of diagnosis I do not propose to enter. Of the importance of early recognition of perforation there can be no doubt and hence a very great deal depends upon the skill of the physician in charge of the patient. In fever hospitals, where a large number of typhoid patients are treated, it will usually be possible to arrive at a definite opinion within 12 hours, about which time, as statistics show, operation can be undertaken with the greatest prospect of success.

That other conditions may produce symptoms very similar to those of perforation is well known and in at least three recorded cases the operation has been performed under a misapprehension. Mr. Damer Harrisson[15] opened the abdomen in one case and found that the symptoms were due to kinking of the small intestine. Mr. Monier-Williams and Mr. Marmaduke Sheild[16] found perforation of the gall-bladder, and Dr. Herringham and Mr. Bowlby[17] have recorded a case in which nothing more than scybala in the colon was found at the time of operation, the symptoms probably being due to constipation. All these three cases recovered. Gesselewitsch and Wanach[18] refer to an interesting case under Chrostowski's care in which similar symptoms were caused by rupture of two softened splenic infarcts. Some of these conditions and others of similar nature will in all probability account for most of the recorded cases of recovery without operation in supposed perforations of intestinal ulcers.

Details of operation.—The best rule to follow in operating upon these cases appears to be that given by Finney—"Speed and dexterity should be cultivated, but never at the expense of thoroughness." Most writers upon this subject have advocated a median incision below the umbilicus. In my own cases I made a right lateral incision and found that it gave free access to the chief seat of trouble and was convenient in every way. Should it fall to my lot to operate upon any more cases I shall certainly adopt the same procedure. When the abdomen is opened there will probably be escape of gas and more or less feculent fluid. The intestines will be congested and in some cases greatly distended. If lymph be present on the intestinal walls the perforation will probably be in the immediate neighbourhood. In each of my own cases I found the perforation in a loop of the ileum lying in the iliac fossa and passing down towards the pelvis and, except in the first case where the intestines were greatly distended, there was no difficulty whatever in localising it If difficulty be encountered it will be best to find the cæcum and to attempt to trace the ileum from it. During this stage of the operation eventration of the intestine should be avoided as far as possible. If no perforation exist in the ileum an examination of the appendix, the cæcum, and the colon should be made.

The best method of closing the perforation is to turn inwards the edges and to unite the peritoneal coats by interrupted Lembert's or Halstead's mattress sutures. This can usually be done without much interference with the lumen of the bowel. A single row of sutures is sufficient in most cases, for post-mortem records of many unsuccessful cases have shown that there is seldom any subsequent leakage. Frequently it has been demonstrated that a perforation has become sealed even when only a few hours have elapsed between the completion of the operation and the death of the patient. Paring of the edges of the perforation is altogether unnecessary; as Keen says, it is both a waste of time and tissue The same remark applies to excision of the perforated ulcer, a procedure which has been carried out in some cases. In my first case I used a continuous suture of fine silk and I attempted the same in my second case, but owing to the friable condition of the bowel-wall some of the loops cut out. Interrupted sutures are less liable to tear the bowel and are more easily manipulated.

When the wall of the bowel is in bad condition or when there are several perforations near together so that simple suture is insufficient two courses are open—resection of a portion of bowel or the formation of an artificial anus. The former has been carried out in nine cases, three of which were successful (Trojanow, Hill, and Ferraresi). In Mr. Allingham's case[19] the bowel-wall was so rotten that it was brought up to the abdominal wound and stitched there, and Mr. J. E Thompson[20] adopted the same procedure in his second case. As a general rule, considering that cases in which it is not possible to close the opening by sutures will be in a bad general condition, I think that the formation of an artificial anus is a less severe procedure than resection. In seven cases the records state that the perforation was not found at the time of operation. Strange to say, recovery followed in three of these cases (Dandridge, Murphy, and J. B. Deaver).

The interests of the patient will be best consulted by not spending any great length of time in looking for other perforations. Probably a second perforation, if present, will be at no great distance from the first and consequently it is advisable to be content with an examination of the neighbouring portions of bowel. Usually during the operation other ulcers will be seen through the intestinal wall; if these be nearly perforated it is advisable to invaginate them and to suture the serous coat over them.

Finney strongly recommends the cleansing of the peritoneum by wiping with pledgets of gauze. He says that during irrigation there is a very real danger of carrying extravasated material into parts of the abdomen previously uninfected. Most writers, however, recommend free irrigation with salt solution or some mild antiseptic and this would appear to have given the best results. Of the successful cases on record the mode of dealing with the peritoneal cavity is stated in 15. Of these 12 were subjected to irrigation and three to wiping with gauze.

Drainage should in my opinion always be adopted in these cases as it does away with the risk of any re-accumulation in the peritoneal cavity. Of 18 successful cases in which there is information upon this point the wound was completely closed in four (Mikulicz, Wagner, Murphy, and Handford and Anderson). In the remaining 14 cases the wound was either left entirely open or drainage was provided by means of a tube or by strips of gauze.

Results.—The most complete list of cases of this operation hitherto published is that compiled by Dr. Westcott and published by Dr. Keen in his recent work. The table was compiled up to January, 1898, and includes 83 cases in which there is no reasonable doubt as to the diagnosis. Of this number 16 cases recovered. To Keen's list I am able to add three fatal cases published before 1898, but of which I know nothing more than the result, 14 cases which have been recorded subsequently, and my own three cases. The additional cases are as follows. J. H. Nicholas[21]: Two cases reported to the Royal Academy of Medicine in Ireland, 1889; both fatal. Podres and Obalinski, cited by Gesselewitsch and Wanach[22]: One fatal case. Gesselewitsch[23]: One case; operation immediately after the onset of symptoms of general peritonitis; perforation sutured; death after 43 hours. J. B. Deaver[24]: A male, aged 27 years; perforation during the second week; operation within 24 hours; free gas in the abdomen; no attempt made to localise the perforation owing to great distension of intestines; irrigation and drainage; recovery; Widal's reaction obtained. H. C. Deaver (reported by J. B. Deaver)[25]: A male, aged 36 years; perforation in the third week; operation after 36 hours; death. Burrell and Bottomley[26]: Two cases—one recovery and one death. (I have been unable to consult the original reference and therefore know nothing further about these cases.) Handford and Anderson (Nottingham)[27]: A male, aged 27 years; perforation on the thirty-third day of a mild attack; operation after 27½ hours; perforation sutured; peritoneum cleaned by sponges; wound closed without drainage; recovery. Pickering Pick (reported by Rolleston[28]): A male, aged 21 years; typhoid perforation of the appendix; the appendix removed; death on the second day. A case mentioned by Dr. Goodall in the discussion upon Mr. Pick's case at the Clinical Society of London: A girl, aged eight years; perforation during relapse; sutured; death after four days. J. B. Deaver[29]: A female, aged 23 years; perforation on the twenty-first day; operation 15 or 16 hours afterwards; perforation sutured; death after two and a half days. Woodward[30]: A male, aged 18 years; perforation at the end of the second week; operation after nine and a half hours; perforation sutured; the patient recovered from the operation but died nine days later from the typhoid fever; at the necropsy the peritoneum was found uninflamed with the exception of local dry peritonitis around the seat of perforation, Cushing[31]: Three cases. (1) A male, aged nine years; perforation at the end of the second week; sutured; abdomen opened twice subsequently, once for a supposed second perforation and once for kinking of the intestine from adhesions; recovery. (2) A male, aged 18 years,; perforation in the fifth week; sutured; death in four hours. (3) A male, aged 31 years; perforation at the end of the fourth week; sutured; death after eight hours. In a fourth case no perforation was discovered at the time of operation; the patient recovered. Bigger and Campbell[32] (a case reported to the Ulster Medical Society): A male, aged 36 years; perforation during the third week; operation after 10½ hours; perforation closed by Lembert's sutures; death on the fourth day. Altogether we have 103 cases with 21 recoveries. The successful cases on record are as *follows*: Mikulicz (1884), Wagner (1889), Van Hook (1891), Abbe, Netschajew and Trojanow, Dandridge, Ferraresi (1894), Hill, Murphy, Price (two cases), Watson, Sifton (1895), Finney, Brunton and Bowlby (1896), Panton (1897), Deaver, Burrell and Bottomley, Handford and Anderson, and Cushing (1898). In England, including my own cases but excluding the doubtful case mentioned by Greig Smith,[33] 13 operations are now on record. My own case is the third reported in this country in which the result has been successful.

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[15] Brit. Med Jour, vol ii, 1894, p 865.

[16] THE LANCET, March 2nd, 1895, p 534

[17] Transactions of the Royal Medical and Chirurgical Society, 1897, vol. lxxx, pp. 127-130.

[18] Loc. cit.

[19] Brit Med Jour, vol i, 1894, p 678

[20] Medical Chronicle, 1895, vol iii, New Series, p 401.

[21] THE LANCET, August 3rd, 1889, p. 219

[22] Loc cit.

[23] St Petersburger Medicinische Wochenschrift, 1898, No. 3. (Centralblatt fur Chirurgie, 1898, No 19.)

[24] American Journal of the Medical Sciences, 1898, vol. cxv., pp 189-192.

[25] Loc cit.

[26] Medical and Surgical Reports, Boston City Hospital, 1898, p. 126.

[27] Brit. Med Jour, vol. ii, 1898, p 220.

Conditions which influence the results of operation.—The time between perforation and operation is a most important factor in determining the success of the operation. In 69 of the 103 cases we have information upon this point, and by adding the additional cases to the analysis already made by Keen we arrive at the following results:—

ime between perforation and operation.	No. of cases.	Recoveries.	Recovery-rate.
Under 12 hours	17	4	23·5 per cent.
From 12 to 24 hours	26	9	34·6 ,,
,, 24 to 48 ,,	14	1	7·1 ,,
,, 2 to 3 days	6	2	33·3 ,,
,, 3 to 4 ,,	4	0	0·0 ,,
5 days	1	0	0·0 ,,
33 ,,	1	0	0·0 ,,

It is advisable to defer operation until the primary shock which usually accompanies perforation and which as a rule lasts for a few hours has somewhat passed off. The best results have been obtained in cases operated on after an interval of from 12 to 24 hours, although no surgeon would think of waiting for 12 hours provided that other circumstances were favourable. Statistics show that in cases operated upon within 24 hours the recovery-rate has been about 30 per cent., but at the same time we should remember that in all probability some unsuccessful cases have not been reported. After the elapse of 24 hours the chances of a favourable result are very small. Also when marked symptoms of collapse have existed at the time of operation the results have been proportionately bad.

The character of the primary attack of typhoid fever influences greatly the prognosis in these cases, the chances of success being much greater when perforation occurs during the course of a mild attack than when the fever is of a severe type. I find that of the successful cases the disease was reported to be of mild character in five, whilst in two only was it distinctly stated to be of a severe nature. Although I do not think it advisable to limit the operation to perforation occurring in the course of mild or moderately severe cases, yet we must recognise that up to the present time there has been but a small amount of success when perforation has occurred during the height of a severe attack.

An analysis of the cases shows that on the whole the chances of success are rather greater when perforation occurs at a late stage of the disease. We have information upon this point in 76 cases.

	Number of cases.	Number of recoveries.
Perforation in course of 1st week	3	2
,, ,, 2nd ,,	16	3
,, ,, 3rd ,,	33	6
,, ,, 4th ,,	5	1
,, ,, 5th ,,	5	1
,, ,, 6th ,,	1	1
,, ,, 7th ,,	2	1
,, during convalescence	3	2
,, ,, relapse	6	1
,, ,, convalescence from relapse	2	1

From this analysis it would appear that there is some hope of a successful result at all stages of the fever and that it is not advisable to limit the operative procedure to any one stage. The amount of vitality which has been exhibited by some of the successful cases is astonishing. Thus one of Finney's cases, subsequently to the operation, had two relapses of the fever—one of great severity—suppurative middle-ear disease, pleurisy, femoral thrombosis, and neuritis of both legs, and yet made a good recovery. Cushing's successful case underwent another operation for a supposed second perforation and a third operation for intestinal obstruction, all within a fortnight. My own case came safely through a relapse of three weeks' duration.

Operation for typhoid perforation of the intestine has already given a gratifying amount of success. If undertaken within 24 hours of the giving way of the bowel we may confidently expect a recovery-rate of from 25 to 30 per cent., and when we consider that without operation the condition is almost inevitably fatal there can no longer be any doubt as to the advisability of the procedure.

Manchester.

CASES OF HÆMORRHAGE CAUSING GREAT DISTENSION OF THE MALE URINARY BLADDER.

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SOME instances of this kind that happen to have recently come together offer material for remark relative to the prompt and direct action which the bleeding usually requires. Cases of great distension of the bladder from this cause, independently of those incidental to malignant growths, are not very common and generally occur in bladders which are muscularly weakened either as the result of a chronic stricture or of an obstructing prostate. The forcing downwards exercised by the normal viscus is the great safeguard against retrograde hæmorrhage following certain operations upon these parts. I cannot remember seeing a severe case of bleeding after an internal urethrotomy for stricture, for instance, where the patient was in possession of the full power of voluntarily emptying his bladder completely. When atonied or weakened the latter is liable to yield under the pressure of bleeding proceeding from a lesion in front of it and then serious and exquisitely painful symptoms may be the result. In some instances the distension thus produced will assume the size of the gravid uterus at about the seventh month. The difficulty in dealing with such a condition is added to by the fact that in the instances referred to the urethra is more or less obstructed. The following cases which are briefly narrated seem to present some points of interest.

CASE 1.—The patient was a man, aged 37 years, the subject of chronic stricture in the deep urethra, for which an internal urethrotomy was performed three years previously and from which he derived so much benefit that he afterwards neglected to use a bougie regularly. Then the stricture began to re-contract and eventually it was found impossible to pass even the smallest instrument. On June 21st,

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[28] Transactions of the Clinical Society of London, 1893, vol. xxi., p. 234.
[29] Annals of Surgery, 1898, vol. xxviii., p. 144.
[30] Boston Medical and Surgical Journal, 1896, vol. cxxxix., p. 317.
[31] Johns Hopkins Hospital Bulletin, November, 1898 (Brit. Med. Jour., Epit., Feb. 4th, 1899.)
[32] Brit. Med. Jour., vol. i, 1899, p. 89.
[33] Abdominal Surgery, fourth edition, p. 776.

1898, an attempt was made to dilate under an anæsthetic and some progress was made, bougies up to No. 4 entering without much difficulty or bleeding. I saw the patient on the following day and found that he had passed only a small amount of blood-stained urine since and that his bladder was largely distended, reaching to a level with the umbilicus. He was in great pain and was sweating profusely. He was again placed under an anæsthetic and a small catheter was passed but very little urine escaped. As it was obvious that clotted blood formed the main contents of the bladder and that it must be removed without delay the process of stricture dilatation was at once further proceeded with until a full-sized Lister's bougie could be passed. A large catheter-evacuator was then substituted and a mass of clotted blood was withdrawn by the aspirator as used for litholapaxy. In this way the bladder was soon cleared. A full-sized rubber catheter was then tied in and the patient speedily recovered. Though the full calibre of the urethra is restored the partially atonic condition of the bladder continues, as there is a constant residuum of six ounces or so unless the catheter is used—the result of a neglected stricture though in a young man. It would not have been possible to evacute these clots in any other way except by opening the bladder either in front or from the perineum.

CASE 2.—A man, aged 72 years, with a large prostate for which he used a catheter was seen by me in June, 1898, in consequence of hæmorrhage into the bladder, the latter when seen being enormously distended. Some blood-stained urine had been drawn off, but without lessening the size of the viscus. Several large-eyed catheters were ineffectually tried. As the bladder was evidently full of blood-clots the patient was placed under ether and the evacuating catheter and powerful aspirator were used without avail. As it looked as if it would be necessary to open the bladder I first passed a smooth-bladed lithotrite and broke up the mass of clots just as if it were a stone. In this way a hand-basinful of clots and urine was withdrawn and the bladder was cleared. A rubber catheter was tied in and the patient did well. This was the first time I had used a lithotrite for this purpose, but it answered admirably and made the process extremely easy.

It was suggested that the hæmorrhage had in the first instance been caused by the catheter. I do not believe that this was so. I have seen many cases where old men apparently bled into their bladders instead of into their brains. I refer to instances of vesical apoplexy which are not uncommon. One patient, now aged 75 years, whom I have known for some years, has had his life prolonged, I believe, by this less dangerous substitute for cerebral bleeding. Hence in some of these instances, a "masterly inactivity" is often indicated. When, however, the bleeding attains the proportions stated in this case interference becomes necessary. Failing with the lithotrite there did not appear to be any other alternative than that of opening the bladder above the pubes. The use of the lithotrite, however, proved to be the solution of the difficulty.

CASE 3.—A man, aged 47 years, came under notice at the hospital in November, 1898. For some weeks he had been attending as an out-patient for the purpose of having a No. 6 bougie passed for a contractile stricture in the deep urethra. On the day in question a No. 7 flexible bougie was passed. There was some tightness and a little bleeding followed. The patient returned at night with almost complete retention and with the bladder greatly distended, apparently with urine but, as it proved, more with blood and clots. The house surgeon succeeded in emptying it with an evacuating catheter and aspirator. On the following day the amount of distension and pain was as much as before. As the bleeding was unchecked and as it evidently proceeded from the strictured portion of the deep urethra I had the patient placed under ether again. I passed a medium-sized grooved staff and performed a perineal section, dividing the stricture in the median line. A large gum-elastic rigid drainage-tube was then passed into the bladder. About two pints of clots, blood, and urine were evacuated and the bladder was washed out and the tube was fastened in. For this purpose I use incompressible tubes[1] which were made for me some years ago by Mr J. W. Wood of Liverpool. Being rigid, in case of bleeding from the deeper portion of the section it enables the surgeon to pack round the tube with gauze without interfering with the constant flow of urine from the bladder. This was not necessary in this instance as I took pains to make the section through the deep parts fit the selected drainage-pipe. The tube was removed in seven days and the patient was able to leave the hospital in three weeks with the wound soundly healed. His stricture has been greatly benefited and he now has a full-sized bougie passed when he applies as an out-patient. Here the single proceeding that was adopted at once stopped the bleeding at the spot from which it came, allowed the bladder to be emptied of a mass of clots which could not otherwise have been readily disposed of, and considerably improved the condition of the stricture. Digital exploration of the bladder, as Sir Henry Thompson described it, has reduced to simplicity the old perineal section without restricting its application.

I may here incidentally refer to a somewhat curious case of prostatic hæmorrhage and vesical distension recently seen. It was the case of a patient with prostatic enlargement who was entirely dependent upon the catheter. Whilst travelling to the North by an express train he had occasion to use his flexible catheter in the lavatory department attached to his carriage. Just as he had inserted the instrument and as the train was passing over some points he was thrown with great violence against the side of the carriage before he had time to withdraw the catheter. He felt hurt and faint and considerable hæmorrhage by the urethra followed and continued with much distension. I was requested to go down to see him with his medical attendant a few days afterwards and I found that he had suffered most seriously from the injury. The distension had been relieved by the catheter but the wound of the prostate, from which no doubt the hæmorrhage came, was followed by a sharp attack of epididymitis; the patient, however, made a good recovery. From the examination of the circumstances connected with the injury it was a marvel that the patient escaped a ruptured bladder. The case is not without its practical aspect.

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[1] Figured in Surgical Disorders of Urinary Organs, fourth edition, p. 104.

THE OCULAR PHENOMENA ASSOCIATED WITH CHEYNE-STOKES RESPIRATION.[1]

BY ARTHUR L. WHITEHEAD, M.B., B.S. LOND.

THE ocular phenomena which occur in association with Cheyne-Stokes breathing are worthy of attention not only as clinical facts, but as possibly helping to throw light upon the etiology of this interesting symptom. Cheyne-Stokes breathing as described in the words of Stokes[2] consists in the occurrence of a series of inspirations increasing to a maximum and then declining in force and length, each inspiration being less deep than the preceding one until they are all but imperceptible and then a state of apparent apnœa occurs. This is at last broken by the faintest possible inspiration, followed by one more decided, marking the commencement of a new ascending and then descending series of respirations. In some cases the sequence of events is not so perfectly regular.

In the majority of recorded cases of this periodic alteration of the rhythm of respiration no eye symptoms whatever have been observed, but in a certain number definite disturbances of the intra- and extra-ocular muscles have been seen. The first recorded observation was made in 1866 by Leyden[3] who in the course of some experimental observations upon the brains of animals succeeded in producing Cheyne-Stokes breathing and noted that the pupils were contracted and that a form of nystagmus set in during the pause in the respiration Leube[4] reported four years later a case from Ziemssen's clinic of mitral stenosis with ascites in which Cheyne-Stokes breathing came on after a dose of morphine. He observed that the eyes were open during the stage of breathing and were closed during the cessation of respiration, and that during the pause the pupils were contracted and failed to react to alterations of light; with the first returning breath, or in some cases shortly before it, they dilated again. Synchronously with the contraction of the pupils there was an automatic conjugate deviation of the eyeballs, the right eye turning out and a little downwards and the left inwards and a little down to a corresponding extent, this movement being repeated each time during the pauses, the eyeballs returning to the normal position during the respiratory period. Hahndel,[5] Merkel,[6] Carrer,[7] Sacchi,[8] Biot,[9] and several others have described similar cases with pupils contracted and not reacting to light during the pause, accompanied at times by conjugate deviation of the eyeballs. Cuffer[10] has produced typical Cheyne-Stokes breathing with the pupil changes described above by the injection of ammonium carbonate into a vein; and Smirnow[11] reports similar phenomena together with anæsthesia of the cornea occurring in animals after breathing sulphuretted hydrogen mixed with air. Hein[12] mentions a case in which the pupils were of moderate size during respiration and became gradually smaller with the descending phase and gradually widened with the ascending series of respirations. Robertson[13] describes two cases of cerebral hæmorrhage with similar pupil changes, in one case the pupils continuing to react to light but not doing so in the other one. Finlayson[14] was the first to report a case of Cheyne-Stokes breathing in which there was a rhythmic enlargement of the pupil with each individual respiration followed by a contraction of less degree with each expiration during the ascending phase and a reversal of the process during the descending phase, so that the pupil was contracted during the pause and widely dilated at the period of deepest breathing. Terrien[15] relates a case in which the pupils contracted down to the size of a needle-point during the stage of apnœa and became so dilated with the maximum inspiration as to render the iris almost invisible. At the same time there was a periodic anæsthesia of the cornea but not the slightest movement of the eyeballs. Langer[16] describes a case in which there was a periodic convergent strabismus with contracted but unequal pupils during the pause. It is interesting that no changes in the retinal vessels have been observed in association with these pupil changes; Schepelern,[17] Ewald,[18] and Knies[19] have specially investigated this point and reported in the negative. Dr. Barrs has given me the notes of a very interesting case of a child presenting many of the symptoms of tuberculous meningitis. On the fourteenth day of the disease Cheyne-Stokes breathing set in with associated movements of the eyes and head. The sequence of events was as follows: "The child sighs and half groans as if a pain has seized her in the head and then the ascending phase of breathing and head-rolling begins, the head being carried with each inspiration to the left with greater and greater excursions till the maximum is reached and gradually subsides again." With the movements of the head were associated conjugate movements of the eyeballs. It is interesting to know that this child recovered in the course of a few days and that she has remained perfectly well ever since.

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[1] A paper read at a meeting of the Leeds and West Riding Medico-Chirurgical Society on Feb 3rd, 1899.

[2] Diseases of the Heart and of the Aorta, 1854.

[3] Archiv für Pathologische Anatomie und Physiologie und für Klinische Medicin, 1866, p 549.

[4] Berliner Klinische Wochenschrift, 1870, p. 177.

We now have to consider some rather anomalous cases which present many of the symptoms above described but without Cheyne-Stokes breathing being present. Bullard and Wentworth[20] have reported the case of a child, two years old, who was suffering from whooping-cough and convulsions in which slight twitchings of the face set in and finally horizontal nystagmus with Cheyne-Stokes rhythm manifested itself. The pupils remained equal and reacted to light. Ultimately coma set in and death followed. No post-mortem examination was obtainable. The nystagmus was horizontal and began with rapid movements, the oscillations becoming progressively larger and more extended to a certain point and then diminishing in the same manner. A pause then ensued which was followed by a repetition of the previous rhythmical movements. The condition recurred at intervals during the day. There was no Cheyne-Stokes breathing and there were no marked pupillary symptoms. Dr. J. A. Gibson[21] has related the case of a child who presented all the symptoms of subacute tuberculous meningitis, but he remarks that owing to the ultimate recovery of the patient this may possibly appear to have been an error in diagnosis. He says, "During the course of the disease when watching her carefully one day a periodic closure of the eyelids attracted my attention and on further observation it was easy to determine that along with the closure of the lids there was a simultaneous contraction of the pupils and a state of complete unconsciousness. This condition remained for several seconds, the eyelids were then raised, the pupils dilated, consciousness returned, and the child raised her head to look about. The conscious state was present for a short time and was in its turn followed by the unconscious condition. In this case there was never, so far as my observation went, any tendency to a periodic change in the rhythm of the breathing." Belonging to this group of cases, each member of which is obviously allied to the others, differing only in detail and filling a gap in the series, are two cases observed by myself.

CASE 1.—A man, aged 23 years, was the subject of chronic left otorrhœa. He suffered from headache and general malaise, and pyrexia had been present for 10 days and was followed by tenderness of the mastoid. Opening and draining the mastoid cells did not relieve the symptoms, and drowsiness followed by stupor set in. The pulse was 100 and regular; the temperature was between 102° and 104° F., and the respirations were about 32 to the minute and perfectly regular. There was some rigidity of the limbs with exaggerated knee-jerks. At this stage I noticed that the pupils although equal and reacting to light were undergoing periodic rhythmic fluctuations in size. At the commencement of the cycle the pupil was about 1·5 millimetres in diameter and gradually and steadily dilated up to about five millimetres, subsequently slowly contracting to its former size, the whole stage occupying about 50 seconds, and after remaining contracted for a few seconds the cycle was repeated. At no period was the reaction to light interfered with and there was no nystagmus or other deviation of the eyeballs, and as mentioned above no alteration in the rhythm of respiration. Subsequently coma set in and was followed by death. At the necropsy a patch of localised meningitis was found over the affected temporal bone, with some flakes of lymph dotted about over the general surface of the pia mater.

CASE 2.—A man, aged 32 years, suffered from acute left otorrhœa of five days' duration. Headache, pyrexia, slight rigors, and some drowsiness were the leading symptoms. The mastoid antrum was opened, but no collection of pus was found and the lateral sinus which was also explored was found to be healthy. The pyrexia continued and there was considerable drowsiness alternating with periods of restlessness, but consciousness was not at all impaired and responses to questions were ready and intelligent. The knee-jerks were brisk and equal. The temperature was 101°, and the pulse was 100, full, and regular. The respirations were 24 to the minute and perfectly regular. At this stage the pupils displayed the same periodic movements which have been described in connexion with the first case. Ultimately coma set in, followed by death. At the necropsy a subdural abscess was found which had burst through the dura mater and had involved the right lobe of the cerebellum.

Considering all these cases, reported by so many observers, it is evident that the ocular symptoms met with in association with Cheyne-Stokes breathing are of considerable variety, and, moreover, that they may be observed in what we may conveniently call a Cheyne-Stokes state or condition apart from any disturbance in the rhythm of respiration. Every variety of case may be seen, from simple Cheyne-Stokes breathing to the complete clinical picture of persistent and regular Cheyne-Stokes respiration accompanied during the pause by unconsciousness, closed eyelids, contracted pupils, and lateral conjugate deviation of the eyeballs, the pulse during this period being frequent, small, and of moderately high tension. At the end of some seconds consciousness returns, the eyes open, the pupils slightly dilate, the pulse loses some of its tension, and a superficial respiration follows. Cases intermediate in character with one or more of these phenomena associated with the Cheyne-Stokes breathing are recorded, clearly showing that whatever may be the nature of the condition underlying this group of symptoms occurring in the Cheyne-Stokes state, it may produce the effects which depend upon it by affecting the lower centres in the first place and spreading upwards to the higher, or by acting upon the higher first and afterwards invading the lower centres. Further, the cases reported by Ballard and Wentworth, by Gibson, and by myself, show that the periodic changes produced by alterations in the centres may commence in, and be limited to, those which are not concerned in vital phenomena.

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[5] Ueber das Cheyne-Stokes'sche Respirations-phänomen, 1870.

[6] Deutsches Archiv für Klinische Medicin, 1871, p. 424.

[7] Gazeta Medica Italiana, 1877, p. 403.

[8] Rivista Clinica di Bologna, 1877, p. 33.

[9] Étude clinique et expérimentale sur la Respiration de Cheyne-Stokes, 1878.

[10] Recherches cliniques et expérimentales sur les Altérations du Sang dans l'Urémie, &c., 1897.

[11] Centralblatt für die Medicinischen Wissenschaften, 1884, p. 641.

[12] Deutsches Archiv für Klinische Medicin, 1880, p. 569.

[13] THE LANCET, Nov. 27th, 1886, p. 1016.

[14] Glasgow Medical Journal, 1887, p. 221.

[15] Le Progrès Médical, 1898, p. 18.

[16] Wiener Medicinische Presse, 1882, p. 1253.

[17] Hospitals Tidende, 1872, pp. 77, 81.

[18] Berliner Klinische Wochenschrift, 1874, p. 169.

[19] The Eye in General Diseases, 1895, p. 171.

[20] Boston Medical and Surgical Journal, 1892, p. 301.

[21] Birmingham Medical Review, 1889, p. 30.

It is not desirable to consider in detail the numerous theories which have been suggested at various times to explain the causation of Cheyne-Stokes breathing. These have been fully stated and adequately discussed in Gibson's exhaustive monograph on the subject. It is quite clear, however, that any theory to be accepted must satisfactorily account for the whole of the associated phenomena. Filehne's[22] well-known theory, to which many writers still adhere, that the action of the vaso-motor centre is an important or predominant factor, is obviously entirely inadequate to account for phenomena which may occur without any changes in the pulse or even in respiration. A modification of the theory originated by Luciani[23] and elaborated by Rosenbach[24] and by Gibson,[25] that some special condition of the respiratory and other centres is responsible for the whole series of phenomena, is the only explanation at all satisfactory. The investigations of Langendorff[26] on kittens and of Sherrington[27] and others on frogs show that the respiratory centre is automatic and when freed from the influence of the higher centres becomes periodic in action. This is confirmed by the observation of Mosso[28] and others that periodic breathing is common in hibernating animals, and has been not infrequently observed in the human subject during deep sleep, especially after great exertion. Other medullary nuclear centres governing the heart's action and blood-pressure exhibit the same periodic tendency when cut off from the influence of the higher centres. If by cerebral pressure, by uræmic blood, by deficient arterial supply, or by the administration of certain drugs the control of the higher centres is lessened or abolished, the lower centres will tend to show periodic variations in the manifestation of their activity, more or less regular inversely as the control is exercised. This is the condition which I have ventured to describe as the Cheyne-Stokes state. The anatomical relations between the various nuclear centres affected in the production of this state are obvious and that anyone or several or all may be involved is equally clear, but the cause of the selective action is as yet quite unknown. It will only be by the careful comparison of accurate records of cases of a nature allied with those now reported that we can hope to arrive at a satisfactory solution of this problem and at the same time determine the diagnostic or prognostic value of the individual phenomena of this group of symptoms.

Leeds.

"COLLES'S LAW" OR "WALLACE'S LAW"?

BY JOHN A. SHAW-MACKENZIE, M.D. LOND.

THE association of the name of Colles with the clinical observation "that the child born of a mother who is without any obvious venereal symptoms . .... will infect the most healthy nurse whether she suckle it or merely handle and dress it . . yet that this child is never known to infect its mother even though she suckle it while it has venereal ulcers on the lips and tongue," seems to be generally accepted in this country. Subsequent confirmation of such observations by Diday led him in conformity with the law of oneness of constitutional syphilis to refer to Colles's constant rule as "Colles's law," and, notwithstanding his admission in acknowledgment of the view of Baumes and a possible case of Cazenave that "this rule like every other must have its exceptions," he nevertheless thinks that "we are fully justified in asserting that a child born syphilitic through the agency of its parents never communicates the disease to the mother who suckles it." The validity and interpretation of Colles's law have comparatively recently been contested by Dr. Coutts[1] and Dr. G. Ogilvie,[2] and while the probability of exceptional cases has since become generally recognised their interpretation, and consequent deductions are controversial points. On the one hand, Mr. Hutchinson, relying upon the general rule as opposed to the constant rule that one attack of syphilis confers for the most part protection against subsequent infection, regards these rare exceptions (a case of which he has never met with himself) as second affections, analogous to the cases of second affections in the male.[3] On the other hand, Dr. Coutts has suggested that the mother's apparent immunity may be due to the antitoxins of her infant in utero and that such immunity is not equivalent to acquisition of the disease itself. These exceptions may therefore be regarded as primary acquisition of disease. I myself, relying largely upon the repetition of manifestations in subsequent conceptions and during the puerperal period, have ventured to suggest that the mother's immunity, in accordance with Mr. Hutchinson's views, is equivalent to acquisition of disease, and that these exceptions might possibly be regarded as relapsing disease or, as noted in a case of Whitehead's, true secondary sore of the nipple with enlarged axillary glands induced by suckling. On the other hand, relying upon the disappearance of symptoms after delivery, I have ventured to suggest that the freedom from symptoms and immunity were conferred on the mother by processes in herself connected with full pregnancy, involution, and lactation, and that therefore these exceptions might be regarded as re infections.[4]

In turning over the pages of THE LANCET of March 25th, 1837, recently, I unexpectedly came across a review of Colles's work and much to my surprise I found that considerable doubt was thrown upon the priority of Colles's observations in general. Appeal is made to the original work of W. Wallace, whose oral lectures in Dublin had appeared and were appearing in THE LANCET for 1833–34 and 1836–37. On referring to these lectures all the observations of Colles appear, apparently independently. Some of these observations—viz., the acquisition of disease by the "dry" nurse; in "wet" nursing; the transmission from secondary disease and the consequent modification—appeared in THE LANCET of Feb. 13th, 1836; others—viz., the contagious nature of the two forms of disease (hereditary and acquired) in the infant; the acquisition of disease from a strange child "not her own child"; disease as well as apparent immunity in the mother of a diseased infant—appeared in THE LANCET of May 7th, 1836, which was undoubtedly before the publication of Colles's work which was dated Jan. 20th, 1837, while the lecture dealing especially with the general immunity of the suckling mother to the disease of her own child appears in THE LANCET of May 20th, 1837. Another observer of similar facts appears in THE LANCET of March 11th, 1837. The remarks of Dr P. Doepp, physician-in-chief to the Children's Hospital, St. Petersburg, on certain diseases in children, founded on a total number of 18,000 patients presenting themselves at that hospital from 1830 to 1833, are published from the translation of Dr. P. H. Green. Dr. Doepp testified to the hereditary (paternal) origin of disease in the infant as opposed to disease acquired from the mother during delivery; to the disappearance of manifestations in the case of a mother during pregnancy; to the immunity of the suckling mother to disease of her own child; to the fatality attending the separation of such infants from the breast; and to the devotion of those who suckled them in spite of the attendant risk.

The question of priority, however, is of minor importance in comparison with the observations and interpretations of Wallace as contained in these lectures published in THE LANCET and "through the medium of this journal" announced to "the whole profession"—"productions which for richness in fact, exactness of detail, and scientific precision of arrangement, have never been surpassed, probably not equalled by any series of clinical discourses hitherto delivered in these kingdoms." "You remember the child," wrote Wallace on May 20th, 1837, "which you saw in the dispensary labouring under symptoms of syphilis. I mean the child which had the peculiar cry, the scaly lips, and the excoriated mouth, the bleared eyes, and the general eruption of reddish brown stains. You also remember that I pointed out to you that the mother who nursed this child was free in appearance from all kind of disease. Her nipple had not suffered although the child's mouth was so much affected. Now you know that such children are most apt to communicate disease to such sound women as nurse them. Why, then, did not this child communicate disease to its mother who nursed it and who seemed to be sound? I reply, because the mother was insensible to the action of the poison in consequence of her constitution being already contaminated. You may say she was sound: I admit she was so to external appearance, but you have, in my opinion, a proof in her having given birth to an unsound child that she was unsound. In fact, the mother of a child congenitally syphilitic is not susceptible of having disease produced in her by suckling her own child—at least so long as she remains in the same state as she was in when she gave it birth. I have never seen a mother injured by her own disordered child. This is a reason among many others that such infants should be nursed by their mothers. But if a mother be separated for a time from a child and cured and if the uncured child be brought into contact with her there is reason to believe that she would receive the infection. I have seen cases which prove this." In explanation and support of these views he brings forward the results of inoculation experiments on a man whom he calls "P. D" and on his wife whom he calls "M. D." to whom the man had given obvious disease. The man was unsusceptible to auto-inoculation and the woman was unsusceptible to auto-inoculation. She was, however, susceptible to inoculation from the man from whom she had originally acquired the disease. "What, then," he asks, "was the cause that inoculation was not followed in P. D. by any effect? By his case and by many others of a similar kind I have been led to the discovery of an important law relating to the propagation of the venereal poison. It is this: as soon as the constitution of any individual becomes contaminated with this poison all parts of his body are rendered insensible to inoculation with the matter of his own sores or of analogous sores of another individual although such matter has the power of producing disease in a sound person." With regard to the woman he writes, "We are authorised from this experiment to infer that M. D. was susceptible of the influence of the poison of P. D. although insensible to her own poison, which had emanated originally from that of P. D. You must observe that this conclusion corresponds with the general conclusion already made—viz., that a system labouring under a venereal disease is capable of being contaminated by a less exhausted virus than its own. Now, although M. D. originally received this infection from P. D., as soon as her disease became constitutional its virus was exhausted one grade more than that of P.D. and consequently she was still susceptible of the influence of the poison of P. D., although insensible to her own." A case which he adduces as an analogy to the reinfection of a mother by her own child is remarkable and suggestive. It is that of a man who obviously infected his wife. Separated from her and undergoing proper treatment his symptoms subsided, but on resuming cohabitation he acquired fresh disease of a primary exanthematic character, followed in turn by constitutional symptoms. Diday noted the manifestations reappearing in the mother in subsequent conceptions. He regarded them as fresh aggravations of poison from the fœtus in utero. His apparent forgetfulness of "Colles's law," to which he had given his adhesion, led me to suggest relapse rather than fresh infection under the stimulus of conception, in similar cases, as well as in these local sores, often seen in men who have previously suffered and who may or may not have exposed themselves afresh to admitted sources of contagion.

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[22] Berliner Klinische Wochenschrift, 1874, p. 152-165
[23] Lo Sperimentale, 1879, p 341
[24] Zeitschrift für Klinische Medicin, 1879, p 583
[25] Cheyne-Stokes Respiration, 1892.
[26] Archiv für Anatomie und Physiologie, 1891, p 494
[27] Journal of Physiology, vol xii, p 229.
[28] Archiv für Physiologie, 1878, p 441.

[1] THE LANCET, June 9th, 1894; "Infantile Syphilis" (Hunterian Lectures), THE LANCET, April 11th, 18th, and 25th, 1896.
[2] "Is Colles's Law a Misnomer?" THE LANCET, Dec 1st, 1894, "The Exceptions to Colles's Law" (Royal Medical and Chirurgical Society), THE LANCET, Feb. 1st, 1896.
[3] Proceedings of the Royal Medical and Chirurgical Society, 1896
[4] Transactions of the Third International Congress of Dermatology, 1896.

Not only does Wallace's work throw light upon the nature of immunity in the mother, from inoculation experiments, but also upon that of reinfection in exceptional and similar cases. Moreover, light is thrown upon many other questions which at the present day are the subject of anxious inquiry and controversy. It is a little remarkable that Wallace's work should have remained "latent" for so long. This has arisen probably from the fact of his death in 1838 preventing the publication of a second *volume* on constitutional disease which he tells us in the preface of his first published volume (1838) dealing with "*primary*" disease and its varieties would follow.[5]

Grosvenor-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON THE RADICAL CURE OF HYDROCELE BY PERINEAL EXCISION OF THE GREATER PART OF THE SAC.

By H. MILTON, M.R.C.S. ENG.

HYDROCELE is one of the most frequent conditions with which the surgeon in Egypt has to deal and its treatment by puncture and injection of iodine is of old standing in that country. In quite recent times this treatment was largely carried out by barbers and I know a native *hakeema* (or lady doctor) of high standing who has a well-merited reputation as regards this particular operation. In my experience, however, the results given by any form of injection are very uncertain and I have long abandoned this method entirely and have treated all my cases by incision. In my earlier operations I incised directly through the scrotal tissues on to the hydrocele and I found very great difficulty in avoiding suppuration. This danger of infection is chiefly due to the nature of the integument and to the difficulty of applying a satisfactory dressing. Later I adopted the method recommended by Kocher of dislocating the hydrocele into the abdominal wall and incising over the inguinal canal. The results thereby obtained were more satisfactory but I frequently met with hæmorrhage into the scrotum subsequently to the closure of the wound. This risk of hæmorrhage is due, in part at all events, to the pressure on to the cord produced by the pad placed over the incision and owing to the laxness of the scrotal tissue this hæmorrhage may go on unperceived until a rise of temperature and pain necessitate a change of dressing and disclose a scrotum as large and as black as a hat. I have in all my recent operations adopted a method which by providing perfect drainage obviates the danger of hæmatoma and which has given me a series of most excellent results with an entire absence of complications. This method, while adopting the principle of dislocation, changes the position of the incision from the inguinal region to the perineum.

The operation is very simple. A purge and enema having acted satisfactorily the patient is placed in the lithotomy position, the perineal and adjacent regions are shaved and well scrubbed with soap-and-water and rubbed down with alcohol and sublimate, and the neighbouring parts are protected with sterile cloths. An assistant seizes the scrotum and causes the hydrocele to project into the perineum, forcing it down as far as it will go. An incision is then made in the perineal skin over the lower part of the projection from some two to three inches in length. A few strokes of the knife expose the tunica vaginalis and an incision into it allows its contents to escape. As the sac contracts its walls are seized with artery forceps and are gradually delivered through the incision. The hydrocele is then split from one end to the other and the larger portion of its walls is removed with scissors, the portion over the testicle and within half an inch of it being left untouched. The removal of this portion of the hydrocele is quite useless and more than that is harmful inasmuch as it leads to oozing and is nearly always followed by orchitis. All bleeding points are clamped and tied and the testicle is returned into the scrotum. A small drain is introduced and the skin incision closed with a fine suture. A perineal pad is applied and over this a large dressing which covers the scrotum and the penis, and by means of a T bandage or a sling from the neck holds them well up on the penis. The outside dressing is removed for urination and the perineal pad is changed daily as it tends to get soaked with perspiration. On the second day the tube is removed, on the fifth day the stitches are removed, and on the following day the patient can get up and if necessary go about his business but wearing a suspender and a perineal pad.

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[5] Samuel Lane refers, however, to his work and untimely death "Lectures on Syphilis," THE LANCET, June 18th, 1842.

Four points require attention. 1. Care must be taken not to incise the testicle instead of the hydrocele sac. Usually inspection and palpation leave no doubt on the matter, but if for any reason, such as a thickened sac, the decision is difficult the passage of a hypodermic needle will settle the question without appreciable injury to the testicle. 2. Care must be taken to avoid any injury to the cord or testicle and the most delicate handling only must be practised. 3. All drainage must be arrested and a drain must be left for the escape of any oozing. This latter precaution is, I think, of great importance to prevent hæmatoma of the scrotum and the presence of a tube and its withdrawal on the second day offers no considerable inconvenience. 4. The scrotum must be kept well up on the pubes during convalescence.

Cairo.

NOTE ON A RAPIDLY-GROWING OVARIAN TUMOUR COMPLICATING PREGNANCY; OVARIOTOMY; MISCARRIAGE; RECOVERY.

By DANIEL MOWAT, M.D. EDIN.

THE following case of an ovarian cyst growing rapidly during pregnancy and its removal verifies the remarks made by Dr. W. Duncan in THE LANCET of Feb. 4th, but in this case the patient unfortunately miscarried about two hours after the removal of the cyst, most probably from the too free handling of the uterus.

A woman, aged thirty-one years, who had had two children and one miscarriage, had suffered severely from metrorrhagia for several years. On examination in January, 1890, I found the uterus enlarged and fibroid nodules on the posterior wall. The ovaries were normal in size In January, 1892, she consulted me and stated that she was about three months pregnant but that she was very large. On examination I found the abdomen much larger on the right side than on the left and dull on percussion. Per vaginam the uterus was enlarged to the fifth month and was pushed to the left side. A cystic swelling somewhat larger than a cocoanut was felt towards the right of the uterus. This swelling was diagnosed to be an ovarian cyst and the patient was strongly advised to go to a hospital for operation as she only had three rooms in a small house and was unable to obtain skilled nursing. This, however, she steadfastly refused to do and she was therefore kept under observation, but the swelling increased so rapidly in size that she was soon unable to leave her bed. As her condition was now serious I asked Dr. Duncan of Stamford-hill to see her. This he kindly did and he confirmed my previous diagnosis and expressed the opinion that an operation must be performed at once. To relieve the immediate distress I tapped the cyst, but owing to the gelatinous nature of its contents nothing came through the cannula

On March 31st Mr. Reynolds of Highgate kindly gave the anæsthetic and Dr. Duncan of Stamford Hill assisted me in the operation. The usual incision in the central line was made and the bleeding vessels were seized at once. The great distension had caused thinning of the integuments and the cyst wall had ruptured at the point where it had previously been tapped. Adhesions had also taken place round this point spreading on the right side into the iliac fossa. These were separated and the tumour was emptied of its gelatinous contents which had to be scooped out with the hand The tumour which was of the right ovary was then withdrawn, several omental adhesions were separated, and the pedicle was tied in the usual manner and dropped into the abdominal cavity. The pregnant uterus now gradually resumed the normal position in the centre of the abdomen where it immediately began to contract. The peritoneal cavity having been repeatedly washed with warm boric lotion the edges of the incision were brought together with silkworm gut. Two hours after the operation I found the patient in labour and she was shortly delivered of a fœtus six months old. The after pains were very severe but were relieved with morphia The stitches were removed on the seventh day. A slight attack of phlegmasia alba dolens developed on the seventeenth day which prevented the patient getting about as quickly as she otherwise would have done. The result is very satisfactory, more especially as the operation had been considerably delayed by the patient's refusal to enter a hospital. It was, indeed, only undertaken to save her from impending death. The operation was performed in a small room in a poor locality and the only nursing she had was from her neighbours. Since the operation the patient again became pregnant, but unfortunately miscarried at the fifth month

Stamford Hill, N.

NOTE ON A CASE OF BRADYCARDIA.

By CHARLES ORMEROD, M.D. BRUX., M.R.C.S. ENG., L.R.C.P. LOND.

A MAN, aged 83 years, well-nourished and extremely phlegmatic in disposition, complained of feeling very cold and of having occasionally what he called a "fit." At these times he turned white and felt faint. The attack was evidently cardiac in character. These attacks occurred on any attempt to get out of bed. The family history of the patient was unimportant. He had had two attacks of rheumatic fever, the second when he was a young man. He had been a non-smoker and had always been very abstemious in his habits. No drugs had any effect on the rate of the heart. On examination the heart dulness was found to extend upwards to the third costal cartilage. Its lateral limits were not markedly increased, the apex beat being in the fifth interspace just inside the nipple. There was a systolic murmur at the apex, inaudible at the back. The heart sounds at the base were natural, but all the sounds were very faint and distant. The pulse was extremely slow. On one occasion only 26 beats and on another 29 beats per minute were counted, but throughout the year during which he has been under my observation the pulse has ranged from 30 to 36 beats per minute. The liver dulness has not obviously increased. There is no albuminuria and no epigastric pulsation. Probably the cause of the extremely slow pulse in this case is some degeneration of the cardiac muscle which is possibly fatty in nature.

Liphook

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ROYAL FREE HOSPITAL.

A CASE OF SARCOMA OF THE CORPORA CAVERNOSA; REMOVAL; REMARKS.

(*Under the care of Mr.* W. H. BATTLE.)

IN two points the following case is remarkable. In the first place the disease is one of extreme rarity, very few cases indeed being recorded, and in the second place the long duration of the case is noteworthy, for more than seven and a half years intervened between the first appearance of the disease and the death of the patient. Another point of interest is the enlargement of the breasts; it is said to occur in cases of malignant disease of the lungs.

The patient, a very tall man, aged 50 years, was first seen in November, 1892 Two years and six months previously he had noticed a difficulty in micturition and six months later a very small swelling appeared in the middle of the perineum. As it gave rise to no pain or inconvenience he took no further notice of it. It increased in size and caused a sensation of weight and also some slight pain on walking. The patient was advised to go into the hospital but he declined; however, in January, 1893, he consented to become an in-patient

There was nothing noteworthy in his family history beyond the fact that his mother and one sister had died from consumption. His general health was very good and his thoracic and abdominal organs appeared to be healthy but the arteries generally were a little thickened. In the centre of the anterior part of the perineum was a fixed rounded prominence, resistant on palpation and of the size of a duck's egg; no fluctuation could be obtained and it was thought to be a new growth or possibly a chronic abscess. On Jan. 30th, 1893, the following operation was performed. The patient was anæsthetised, placed in the lithotomy position, and a No. 11 catheter was passed. The perineum having been shaved and cleansed an incision was made in the mid-line of the perineum, reaching from a point half an inch in front of the anus over the middle of the swelling to the scrotum. This incision was deepened until the tumour was reached; it proved to be very vascular and when it was dissected away from its surroundings it was found that it had arisen in connexion with the left corpus cavernosum, but extended across at the junction of the two into part of the right corpus cavernosum. The left corpus cavernosum was removed from its posterior attachments to the bone, the right one was cut across well behind the part invaded by the growth, and the tumour removed after section of the two corpora which were joined under the scrotum. No opening was seen in the urethra, but it was somewhat difficult to separate it in front, whilst it is probable that the necessary traction during the removal of the tumour had bruised it. The oozing of blood which was severe was stopped by means of Paquelin's cautery. The wound was swabbed out with a solution of chloride of zinc (40 grains to the ounce) and was stuffed with gauze soaked in glycerine and iodoform. The skin incision was partly closed with carbolised silk sutures and a sal-alembroth dressing was applied. The catheter was retained in the urethra. After the operation the temperature became variable, rising to 102°F., and on Feb. 5th to 103°, but it fell to normal on the 8th. The wound was dressed daily and on Feb. 5th as the stitches were tense, they were removed, and after that a little urine escaped by the wound. The quantity of urine thus escaping increased until nearly the whole of the urine passed by this channel. Occasional incontinence of fæces occurred from the 14th and he complained much of pain "in his bowels," but no cause for this pain could be found. The wound began to heal and less urine was passed through it, and by the 24th most of the urine passed by the urethra, and on the 25th the catheter was left out. Turpentine stupes appeared to relieve the abdominal pain. On March 8th he was able to get up in the evening; the wound had almost healed and very exceptionally a small quantity of urine still escaped through it. The abdominal pain still occurred occasionally and the involuntary defecation still continued. Both these symptoms, however, improved later. On April 8th he had a discharge "like dirty water" from the rectum; it was thin, brownish coloured, and very offensive, but nothing could be found on examination. About the same time some pain and tenderness were present in the left iliac fossa and a small swelling of about the size of a cherry could be felt there. The pain had much diminished, the involuntary action of the bowels had ceased, and the wound of the perineum having completely healed all urine was passed naturally when he left the hospital on April 15th.

For six months after leaving the hospital he was apparently quite free from the disease; then the growth began to reappear in the old scar. It caused him no inconvenience or pain until in December, 1895, he had an accident, a fall from a scaffold, causing "concussion of the brain," and for this he was for five weeks in the West London Hospital and during his stay there the growth was noticed. It became painful and grew more rapidly. He was readmitted into the Royal Free Hospital on Feb. 19th, 1896. At that time his general condition was hardly changed, though he looked sallow and ill. In the perineum were found some small, rounded swellings along the middle line and also in the scar of the former operation. On examination per rectum the situation of the left crus penis was occupied by a firm ovoid swelling of about the size of a small hen's egg. It was decided to attempt the removal of the growth. The patient was anæsthetised and placed in the lithotomy position and the perineum was cleansed. Mr. Battle then made an incision through the skin and subcutaneous tissue on the left side of the perineum parallel to the ramus of the ischium and a finger's breadth internal to it. The growth was dissected out; it was very vascular and bled freely and the wound had to be packed several times with gauze and sponges to stop the bleeding. The growth extended as far as the pubic ramus and a second incision was made outwards for two inches from the centre of the first incision. The more anterior of the recurrent growths were left untouched at that time as the patient had lost a good deal of blood; the edges of the wound were sutured, no drainage tube being used, and the wound was dressed. The wound was dressed daily; no marked rise of temperature occurred, it never reaching 101°. After a day or two the bowels began to act involuntarily, as after the former operation. The wound healed well and on March 8th the patient left the hospital with the intention of returning shortly for operation for the removal of the remaining nodules of the growth. He did not, however, return to the hospital until August 31st, 1896, and then he said that he had had pain both when sitting and walking for several months and he had not been able to work properly since leaving the hospital. He had no trouble with micturition or defecation. On examination a firm, lobulated mass was found in the anterior part of the perineum. His general condition was not so good as it had been when he was in the hospital previously. He had a troublesome cough and numerous râles were heard all over the chest. As it was considered that these pulmonary signs might be due to secondary growths in the lungs Dr. Andrewes was requested to examine him. On *Sept. 11th Dr. Andrewes found somewhat impaired* resonance about the right apex with signs of a diffuse bronchial catarrh. There were no definite signs of any secondary deposit in the lungs but the signs present were not incompatible with such deposits. Mr. Battle decided not to operate. The violence of the cough increased and on the night of the 22nd the patient brought up with the cough a considerable quantity of bright blood. The hæmoptysis continued in varying amount and though his general health seemed to improve with tonics his cough continued to be very troublesome. Some enlargement of the mammæ occurred, especially on the left side. The physical signs hardly altered. The cough increased in severity and the patient grew weaker and on *Dec. 7th he was removed to* Highgate Infirmary where he died early in 1897. No post-mortem examination was made, but the symptoms were those of new growth in the lungs. On microscopic examination of the portions of growth removed at each operation it was found to be a spindle-celled sarcoma.

Remarks by MR. BATTLE.—Sarcoma of the penis is a rare condition in surgical practice and this case has been considered worthy of publication on account *of the part in* which the growth originated and the somewhat unusual method of removal adopted. It is questionable if any other method of treatment would have afforded equally good results. It is probable that local recurrence would have been met with at a similar interval had the whole penis been removed and the urethra brought out in the perineum, for the recurrence was as marked in the tissues on *both sides of* the perineal urethra as in the posterior extremity of the united corpora cavernosa. The *muscles* of the perineum were adherent to the growth in parts at the first operation and although no tumour was *apparently* left there is no doubt that some infiltration had taken place into them. The course of the urethra could be readily ascertained during the operation, for its position was manifested by the catheter, and this was at no time visible, so that the discharge of urine from the perineum during the after treatment was probably the result of sloughing of a damaged portion. There can be no doubt that the patient was much more comfortable and far happier after this operation than if a more extensive one with removal of the penis had been performed. He had been warned of the probability of recurrence and *had promised to* return if there was any reason for thinking that there was anything amiss. I am indebted to Mr. Durham for having sent him to me for the second operation. On that occasion it was evident that the growths requiring removal were in a vascular region and that it might not be advisable to remove all at once; this was explained to the man who gave permission to me *to act* as I thought best. There was considerable hæmorrhage and a marked general effect on the system from the hæmorrhage which ensued on removal of one growth, so further operation was postponed. He afterwards withdrew his promise and refused operative treatment until it was too late. The hypertrophy of the breasts which was marked and lasted for some six to eight weeks was a curious state for which I can offer no explanation. I have not before met with it in secondary sarcoma of the lungs. Microscopical examination of the growth showed spindle- and round-celled sarcoma, chiefly the former.

SALOP INFIRMARY.

A CASE OF PURPURA HÆMORRHAGICA IN WHICH STREPTOCOCCI WERE FOUND IN THE BLOOD; NECROPSY.

(Under the care of Dr. E. CURETON.)

HÆMORRHAGIC purpura probably arises from several causes, though in all cases it is likely that a toxin is present in the blood. In the following case the staphylococcic infection was in all probability the cause of the purpura, but it need not follow that all cases of this disease are staphylococcic in origin. An important point may be borne in mind, that in every case of purpura a bacteriological examination should be made of the blood; it is only by a regular, systematic investigation of all cases that we shall be enabled to form clear conclusions as to the etiology of this affection. For the notes of the case we are indebted to Dr. G. Gocher, late assistant house surgeon.

A schoolboy, aged 11 years, was admitted into the Salop Infirmary on Oct. 15th, 1898, under the care of Dr. Cureton, for general ill-health and an eruption all over him. For three weeks before his admission into the hospital the mother noticed that he was covered with spots. For the first two weeks he went to school as usual, but during the third week he stayed at home complaining of a sore throat and weakness in his legs. During this time he did not appear to be feverish, but he would not take his food and during the latter part of the third week he began to vomit. The mother then, seeing that he was really ill, took him to a medical man who advised that the patient should be taken to the hospital. The medical man kindly supplied the following information: "I found petechiæ on the body and limbs and the boy looking ill and weak. Four days later I saw him again and he seemed worse for there was bleeding from the mouth and right ear. The boy lived in a wretched home, was badly clothed, and was fed mainly on bread and jam." The boy had always been weak and delicate. The other children were quite well. There was no history of hæmophilia in the family and no history of rheumatism.

When the patient was first seen after admission he was lying curled up in bed in a very drowsy state. When spoken to he answered in monosyllables and appeared anxious to be left alone. He was inclined to be irritable. The temperature was 100·4° F., the respirations were 28, and the pulse was 120, small, soft, and compressible. He had a very pallid expression and when he slept his breathing was stertorous in character. Blood was continuously oozing from his gums and as a result his breath was exceedingly foul. The teeth were not loose. The heart and lungs were normal as was also the liver. The spleen was not enlarged. Abdominal palpation revealed nothing. The body was covered all over with a purpuric eruption. The spots varied in size from that of a split pea to a pin point and in colour they ranged from a dark purple to a bright red. They did not disappear on pressure. They were most profuse on the front of the chest and abdomen, the only parts free from them being the soles of the feet and the palms of the hands. A few were seen on the face, but not many, but the under surface of the chin and the neck were covered with them. The joints were neither swollen nor painful. With the ophthalmoscope well-marked retinal hæmorrhages could be seen. The bowels were confined; there was no blood in the motions. The urine was of specific gravity 1020 and acid; it contained no blood but a trace of albumin.

During the five days that the boy remained in the hospital his apparent condition continued pretty much the same except that he grew more and more anæmic. The temperature throughout kept remittent, the highest being 104° on Oct 17th; the temperature never at any time fell below 100° till the 20th, the day on which he died, when it was 97°. On the 18th a systolic bruit could be heard over the pulmonary area. In both lungs behind some rhonchi and râles were now audible. A most noticeable feature was the rapid diminution in the number of the red blood cells. On the 17th they averaged 1,680,000 per cubic millimetre; on the 18th, 1,170,000; on the 19th, 600,000; and on the 20th (the day on which he died), 310,000. Any leucocytosis present could not be estimated owing to the great difficulty in getting him to bleed from a skin puncture. On the 19th the patient was getting much weaker and he refused all food. All motions were passed under him; he vomited once. In both motions and vomited matter blood was present. At no time during his illness was blood found in the urine. On the 20th the patient died in the early morning.

Necropsy.—A post-mortem examination was made about 10 hours after death. The body was markedly anæmic, as were all the internal organs. The lungs were small, pale and healthy. The heart was small and well contracted. It presented well-marked hæmorrhages in its walls. The stomach presented numerous hæmorrhages in its mucous membrane. The spleen was normal. The liver had a few hæmorrhages on its upper surface. There was only one kidney, the right kidney being absent. The kidney was lobulated, weighed six ounces, and showed no hæmorrhages. The intestines showed a few scattered hæmorrhages in the mucous membrane. On cultivating some of the blood which was taken from one of the chambers of the heart colonies of streptococci were seen. Cover slip preparations were made and under the microscope they were very well seen.

Remarks by Dr. CURETON.—The above case is interesting from more than one point of view. First the disease appears to have run the course of an ordinary purpura hæmorrhagica until some few days before admission to hospital when the symptoms assumed a much graver aspect with rising temperature, almost continuous hæmorrhage from the nasal and alveolar mucous membrane, attended by delirium and rapid loss of strength, suggesting a general infection of the system through the blood, and giving grounds for the belief expressed by Lætzerich, Cassel, Reihl, and Wilson, that this disease may ultimately be proved to be due to a bacillus. Although the bacteriological examinations made thus far in purpura are not numerous there is little doubt that infection is the essential feature in some forms of this disease, particularly as in the case now recorded where there occurred a sudden onset of the alarming symptoms, high temperature, cerebral symptoms, showing a general systemic infection and running on to a fatal issue. It is to be hoped that further light will be thrown upon purpura as the result of a careful bacteriological examination of the cases and a careful examination of the blood both by the spectroscope and hæmatocytometer.

ROYAL INFIRMARY, LIVERPOOL.

A CASE OF CHRONIC INFECTIVE ENDOCARDITIS TREATED WITH ANTISTREPTOCOCCIC SERUM.

(Under the care of Dr. J. H. ABRAM.)

IN the *Mirror of Hospital Practice* in THE LANCET of Feb. 11th, 1899, we published a case of septicæmia in which injections of antistreptococcic serum were followed by recovery and in which the presence of streptococci in the blood was definitely proved. In the case published below a mixed infection occurred and the injections of antistreptococcic serum were apparently followed by the complete disappearance from the blood of the streptococci. Although the patient died the value of the evidence afforded by the case in favour of the action of the serum is hardly less than if she had recovered. Every case in which the antistreptococcic serum is employed after competent bacteriological examination should be put on record, whatever may have been the issue. For the notes of the case we are indebted to Dr. A. Stanley Griffith, house physician.

A woman, aged 39 years, was admitted into the Royal Infirmary, Liverpool, on August 2nd, 1898, complaining of general weakness, loss of appetite, and occasional swelling around the ankles. Her previous history was good and no history of rheumatism could be elicited. Other symptoms such as diarrhœa, emaciation, and a temperature of 102·5° F. on admission, with physical signs of mitral stenosis, led to the diagnosis of infective endocarditis and in confirmation of this nine days after admission a splenic embolism occurred. The blood was examined and streptococci were found in large numbers. It was then decided that antistreptococcic serum should be tried and 10 cubic centimetres of the serum manufactured by the British Institute of Preventive Medicine were injected into the buttock daily for a fortnight, the only appreciable effect on the patient being a steadying of the temperature and an improved general condition. A week later nine injections of the serum manufactured by the Institut Pasteur de Paris were tried, but with no better result; the temperature again oscillated widely, diarrhœa continued to be obstinate, and general anasarca ensued, death occurring on Oct. 1st from multiple embolism. Post mortem blood cultures were made from the splenic substance and numerous colonies of staphylococci were found but no streptococci.

Remarks by Dr. GRIFFITH.—The chief interest of the above case lies in the later bacteriological examination which seems to confirm the value of the antistreptococcic serum, inasmuch as the streptococci which were present had disappeared, although the concomitant staphylococcic infection proved too serious for the patient's recuperative powers.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Discussion on "Pseudo-tuberculosis."

A MEETING of this society was held on Feb. 21st, the President, Dr. PAYNE, being in the chair.

The PRESIDENT referred to the fund which was being raised as a memorial to the late Professor Kanthack. The laws of the society did not allow of any contribution being made from the funds of the society, but he wished to draw the attention of members to it. The capital is to be invested and Mrs. Kanthack is to receive the interest during her life, the fund ultimately being employed to encourage research. The secretary of the fund is Dr. Drysdale, 25, Welbeck-street.

The PRESIDENT also referred with regret to the death of Professor Rutherford of Edinburgh and of Mr. Thomas Cooke.

Dr. G. SIMS WOODHEAD, in opening the discussion on Pseudo-tuberculosis, stated at the outset that the term "pseudo-tuberculosis" had been responsible for a good deal of misunderstanding and the number of conditions classified under it were so numerous that pseudo-tuberculosis was no longer of the slightest value as a term in classification, for numerous pathogenic conditions, most varied as to appearance and etiology, were described by different writers as pseudo-tuberculosis. Dr. Woodhead first referred to a series of cases which came under his own observation during the investigations carried on for the Royal Commission on Tuberculosis and which were, for the sake of convenience, spoken of at the time as "pseudo-tubercular" and which might undoubtedly have been mistaken for true tuberculosis had not the conditions under which they occurred and the microscopic examination given such definite indications to the contrary. In one case, that of a guinea-pig which *died on the second day after injection of tuberculous meat*, much too early therefore to show tubercle as the result of injection, the following conditions were found: venous congestion of the large intestine and cæcum; enlargement of solitary glands and Peyer's patches with small hæmorrhages into their substance; in these glands in the small intestine were white opaque points, sometimes scattered over the whole glandular patch; the mesenteric glands were slightly enlarged; the liver was mottled with small yellow patches; in the lungs were two yellowish grey points; the spleen was normal; and the mediastinal glands were evidently enlarged. The degenerated patches were much whiter than tuberculous nodules and the breaking down was more complete, so that on microscopic examination one could not make out even the outlines of any cells. No tubercle bacilli could be found in any of the lesions, but micrococci, especially in the form of diplococci, were numerous. As all the other guinea-pigs in the experiment were perfectly free from tubercle it was agreed to look upon it as some mycosis other than tuberculosis. Without having recourse to microscopic examination, however, Dr. Woodhead could not have satisfied himself that it was not a case of tuberculosis. In a couple of guinea-pigs inoculated with raw meat from the same cow small nodules were observed in the spleen resembling infarctions. On microscopic examination these nodules were found to have a central necrotic area of dead cells which had lost their outlines and had become fused into irregular masses. Short bacilli with polar staining, almost like diplococci, were found near the margin; around this central area was a zone of shadowy-looking splenic tissue, whilst outside this again was a distinct capsule of connective tissue and leucocytes. In the case of another guinea-pig injected with artificial tuberculous milk heated to 70° C. for one hour, at which temperature tubercle bacilli are rendered innocuous—at any rate, as regards guinea-pigs—the animal died 11 days after injection. In some adenoid patches there were opaque areas which were found on microscopical examination to consist of tissue in an advanced stage of necrosis and at the margin micro-organisms were found, again in the form of short bacilli with polar staining. In another specimen injected with artificial tuberculous milk, heated as before to 70° C. for ten minutes, the animal was killed 101 days after inoculation, and a small, yellowish nodule was found near the surface of the liver and this was seen to be made up of a large mass of organising connective tissue in which not a single tubercle bacillus could be found. Dr. Woodhead described one or two other conditions which at first sight were mistaken for tuberculous granulations but in which true tuberculous structure or the presence of tubercle bacilli could never be demonstrated. He next proceeded to discuss some conditions found in the lungs of sheep brought to him by a medical officer of health who stated that he had had to confiscate large numbers of sheep showing this condition as tuberculous. Dr. Woodhead at once recognised the condition as what is called in Scotland "hoos"—small glistening pearly grey nodules produced by strongylus filariæ. Microscopical examination showed that the nodules consisted of small nematode worms coiled and surrounded by proliferating connective cells. Here they had a perfectly distinct process and one which should certainly not be called a pseudo-tuberculosis. Dr. Woodhead then called attention to Professor Muir's article on Pseudo-tuberculosis in Birds, where at least six different conditions were referred to as having been described. Professor R. Muir of Dundee described a form in birds which was probably the same as that described by Malassez and Vignal, Nocard and Pfeiffer. Several of these forms of pseudo-tuberculosis had been separated from animals inoculated with material from patients supposed to be suffering from atypical tubercle. In others again the guinea-pigs appeared to have been affected "spontaneously"—i.e., they had contracted the disease quite apart from experimentation. This was a point of considerable importance in connexion with Dr. Woodhead's own observations on pseudo-tuberculosis which evidently occurred, in certain cases at any rate, independently of inoculation, as in the animal that died two days after inoculation, whilst in another of his cases bacilli identical in appearance with those described by Nocard, Muir, and Pfeiffer were found to give rise to this condition on the eleventh day. This corresponded very closely with the condition presented in the experiments of Professor Muir who pointed out that a very marked feature in this special form of pseudo-tuberculosis was that both leucocytes and connective tissue corpuscles undergo a very rapid breaking-down and that caseation and softening both take place at a very early stage, the result being that the centre of a nodule becomes almost purulent rather than caseous. The proliferative changes in both Dr. Woodhead's and Professor Muir's cases were well marked and were confined almost entirely to the periphery of the nodule. There was an absence of giant-cells and the bacilli were usually found near the margin of the caseous centre. This accorded perfectly with what Dr. Woodhead observed in the pseudo-tuberculosis of guinea-pigs described in the Report to the Royal Commission on Tuberculosis. In referring to old cases found in museums labelled "tuberculosis" but which more recent investigators had recognised as being cases of actinomycosis, Dr. Woodhead called attention to a case described by Professor Boyce of Liverpool, which that writer very properly described as "aspergillo-pneumonomycosis," a much better term than that of "aspergillar pseudo-tuberculosis" given by Kotljar to a similar condition. Kotljar divided pseudo-tuberculosis into two groups, those of bacterial origin and those of mycotic etiology, these latter being produced by aspergilli. In comparatively recent times they had passed from an anatomical pseudo-tuberculosis to a pseudo-tuberculosis bacillus. A serious question was opened, however, by the discovery by Frau Rabinowitch in milk, cream, and butter of a bacillus which morphologically, and in its staining reactions, but in little else, was identical with the tubercle bacillus, and they had two positions from which it was absolutely necessary to extricate themselves. They had on the one hand organisms of pseudo-tuberculosis which had the morphological and staining characters of the true tubercle bacillus, but which pathologically appeared to be widely separated from it; whilst on the other hand they had a whole series of lesions which presented certain superficial resemblances to tubercle, but which were not induced by the action of the tubercle bacillus. The protean forms of the histological lesions in tubercle made it difficult to describe any single form as typical. Almost every new tissue at some period of its development might be said to be like some stage of a tuberculous process in the rapid infiltration of leucocytes and even the presence of giant cells. The phenomena of endarteritis obliterans were seen also in many non-tuberculous conditions. Taking the tubercle bacillus as the etiological factor and basis of classification and taking the investigations of comparative pathologists in recent years who had found many lesions to be tubercle which were not previously so recognised Dr. Woodhead thought it very inadvisable that any nomenclature should be brought in which could only ultimately lead to confusion, and he hoped that the discussion would lead to the drawing up of an accurate and comprehensive nomenclature of many of those forms of disease which at present were practically unnamed. "Pseudo-tuberculosis" could no longer be regarded as a pathological entity, and although it might be necessary, owing to the exigencies of use and wont, to retain the term "tuberculosis," that term should be restricted as far as possible to a process which had a distinct etiological factor and they should minimise as much as possible the evil of the term by eliminating altogether such terms as "pseudo-tuberculous processes" or "pseudo-tubercular organisms."

Dr Sidney Martin said that his own personal experience covered much the same ground as that of Dr. Woodhead, being obtained through observations which he made independently for the Royal Commission on Tuberculosis. He had repeatedly met with pseudo tuberculosis or, as he preferred to call it, "bacterial necrosis" in guinea-pigs and rabbits At first he was much troubled to diagnose the condition as the specimens in the liver and spleen so closely resembled those of true tubercle. But the appearances in other organs and the results of cultivation made it clear that they were non-tuberculous. Besides, there was great irregularity in the distribution of the lesions, although in inoculated tubercle there was a characteristically uniform march of infection along the lymphatics to the organs of the thorax and abdomen, and from each centre of infection tubercle bacilli could be demonstrated, and each inoculated into an animal gave rise to true tubercle. Cases of pseudo-tuberculosis were very rare in man, most of the recorded cases being due to some aspergillus. There were three, however, recently published which appeared to be due to some form of streptothrix The first was recorded by Dr Simon Flexner and occurred in a negro, aged 70 years. The chief lesions were in the lungs. The upper lobes were consolidated and there were scattered nodules in the lower lobe of the left lung, the nodules being larger than in true tubercle, and having undergone rapid softening. No cavities had been formed as in phthisis, the softened matter not being expelled. There was also infection of the omentum and peritoneum No tubercle bacilli were discovered and inoculations did not give rise to tubercle On microscopic examination a typical streptothrix was found in all the lesions The second case was recorded by Buchholz The patient was a man, aged 38 years, who had an empyema and consolidation of the lung with formation of cavities. The liquid material in the consolidated lung was traversed by branching hyphae, indicating infection by a streptothrix. No tubercle bacilli were present The third case occurred in a woman. There was cystitis at first and then a number of small tumours appeared on the skin and suppurated. Later consolidation of the lungs occurred, supposed during life to be tuberculous After death no tubercle bacilli were found, but there were branched threads of some streptothrix.

Dr. Washbourn said that it would be advisable to discard the term "pseudo-tuberculosis" as it was misleading. By some observers several bacilli which resembled the tubercle bacillus in morphology and in staining reactions would be called "pseudo-tubercle bacilli" They were of importance from the point of view of clinical diagnosis, for by relying upon a microscopical examination alone they might easily be mistaken for the tubercle bacillus. In the urine pseudo-tubercle bacilli of this nature were by no means uncommon. It was on this account that inoculations were necessary for the diagnosis of tuberculosis of the genito urinary tract. The term "pseudo-tuberculosis" was usually applied in quite a different sense to the above. It was used to denote diseases which resembled tuberculosis in morbid anatomy but which were caused by other organisms than the tubercle bacillus. Of late a large number of such diseases had been described. There were many organisms which produced similar anatomical lesions to those produced by the tubercle bacillus. These organisms were of widely different character. There were bacilli such as the bacillus pseudo-tuberculosis, giving rise to caseating tubercles in many animals; the bacillus pseudo-tuberculosis murium, causing caseating tubercles in mice; and the bacillus pseudo-tuberculosis liquefaciens, causing tubercles in the peritoneum in the human subject; and similar lesions in rabbits There were various kinds of streptothrix such as the one described by Dr. Flexner in the human being. There were also organisms which did not belong to the class of bacteria. A form of mould, the aspergillus, had been described as causing a tuberculous lesion in the human lungs and even nematode worms might produce tubercles consisting of giant cells and epithelioid cells in the lungs of cats and the kidneys of dogs There was a skin disease described by Gilchrist and Stokes which was of especial interest. It resembled lupus vulgaris in its clinical aspect but it was caused, not by the tubercle bacillus, but by a blastomyces which they obtained in pure cultivations and which produced in animals by inoculation tubercles consisting of epithelioid cells and giant cells. It was quite probable that many of the cases of so-called tuberculosis of the skin were due to other organisms than the tubercle bacillus, as in a case seen lately in which tubercle bacilli could not be demonstrated either by microscopical examination or by inoculation. It was quite clear that the lesions caused by the tubercle bacillus were by no means specific, for many organisms might produce exactly the same changes. Again, the lesions produced by the tubercle bacillus were not constant; sometimes there was much caseation with formation of giant cells, while in other cases there was the production of a granulomatous tissue; in fact, the tubercle bacillus and the other pathogenic organisms mentioned obeyed a general law They set up a more or less chronic form of inflammation the character of which depended partly upon the virulence of the organism and partly upon the relative susceptibility of the animal. Thus the same pathogenic organism might produce several types of inflammation and the same type of inflammation might be produced by several pathogenic organisms. The most important lesson to be learnt from this discussion was the importance of making a systematic bacteriological examination of every case in the post-mortem room—a procedure very much neglected in London.

Dr. James Galloway said that Dr. Murray of Glasgow had described a case in which mycosis fungoides and later general infection followed a kick from a sheep. An organism was isolated which appeared to be a streptothrix. Dr. Galloway also referred to two rare skin diseases The first, "xanthoma with giant cells," had been called by Unna "pseudo-tuberculosis of the skin." The disease was infective and usually appeared first on the lower lid. The giant cells were arranged in a layer just beneath the epidermis. In one case several of these tumours formed on the face. No tubercle bacilli could be found in the sections. The second form of skin disease was characterised by the appearance of tumours over the surface of the body in which giant cells were present in very large numbers. They closely resembled sarcomata but after some months they disappeared as rapidly as they had come. It was clear that histological evidence alone could not be relied on for diagnosis, but experimental evidence from inoculation must be forthcoming as well

Dr. Woods Hutchinson had several specimens of the conditions which would come under the heading "pseudo-tuberculosis" which he had obtained from the Zoological Gardens. One was a lung in which the lesion was due to an aspergillus taken from a trumpeter bird and he had met with similar specimens in ducks and parrots. It did not appear to be of a very highly toxic character. The other was a monkey's lung showing what was known in Germany as "worm knots" and which could be seen to consist of a mass of coiled worms, probably either strongyli or filariæ. This monkey also had many thread worms in its peritoneal cavity which did not appear to have given rise to any disturbance.

On the motion of **Mr. Shattock** the discussion was adjourned to March 6th.

HARVEIAN SOCIETY OF LONDON.

Varieties of Eczema and their Treatment.

A MEETING of this society was held on Feb. 16th, Mr. HENRY JULER, President, being in the chair.

Dr. WHITFIELD read a paper on Varieties of Eczema and their Treatment. After pointing out that the *older* classification into idiopathic and symptomatic was based on pure theory and that the other classifications merely indicated stages in the process of the regions attacked he proceeded to examine the evidence on which Unna's variety of seborrhœic eczema was based. After excluding psoriasis and simple pityriasis of the scalp the question was whether anything remained. This question he answered in the affirmative and defined seborrhœic eczema as a disease starting in the follicles, afterwards possibly attacking parts which were destitute of follicles, having a well-defined border to the edges of the patches and a strong tendency to serpiginous advance. Audry's case of seborrhœic eczema occurring on scar tissue was then discussed in order to show that although seborrhœic eczema could occur on areas of skin which possessed neither sebaceous nor sweat glands, nevertheless it flourished much more easily on normal skin. The fact of Audry having succeeded in inoculating the disease from one part of the patient to another was also mentioned as tending to show that the disease was parasitic in origin. Dr. Whitfield then shortly mentioned the other varieties of eczema which were supposed to own a parasitic origin—namely, the eczema folliculorum of Morris, that of Neisser, the eczema mycoticum of Hans Hebra, and the eczema circumscriptum of Crocker. He considered that the clinical evidence in favour of these diseases being due to organisms was rather strong but that until the different microbes had been determined so that the diseases could be properly classified, as had been done in ringworm, it was more convenient to group them all under the heading of "seborrhœic eczema." Passing on to the so-called simple eczema Dr. Whitfield said that there were two main opinions as to the origin of the disease, one of which was that the disease was an outward manifestation of a constitutional disorder and the other that it was due to some local irritant. He then proceeded to inquire what evidence there was of the relation of the disease to gout and quoted Garrod's paper on the subject to show that although gouty patients were undoubtedly more prone to the disease there were no distinguishing points to indicate an eczema of gouty origin from that due to any other cause. Colombini's researches on the toxicity of the urine in acute, weeping, and chronic dry eczema were then referred to and it was pointed out that as far as they went they were rather against the supposition of a toxæmia as the cause of acute eczema. The supposed danger of the sudden suppression of discharging rashes was then entered into and although there were one or two cases on record which seemed to show with reasonable certainty that the attempts at curing an extensive eczema had been followed by untoward results the accident was undoubtedly one of extreme rarity. On the other hand, a case had been published of a child who had died from septic infection from a wide-spread eczema and this danger seemed a much more important one than the supposed production of metastases. The parasitic theory of simple eczema was then referred to and was considered as entirely unproved. The recent papers of Leredde and Török were quoted and the incompleteness of the arguments for the bacteriological origin of eczema were pointed out. The great confusion appeared to be due to the wrong use of terms and it was strongly to be deprecated that observers did not more accurately describe the lesions about which they were writing. The probability was that there were at least two diseases, one of which was of entirely unknown origin and might be called simple eczema and the other was probably of parasitic origin, although the parasite was at present unknown, and this was the disease to which the term "seborrhœic eczema" might be restricted. Turning to the treatment of eczema, it was pointed out that in the supposed parasitic variety antiparasitic remedies could be used much more boldly from the start than in the simple variety. In the treatment of acute weeping eczema it was best to treat the skin with soothing lotions which had just sufficient antiseptic power to inhibit the growth of any accidental contamination with cocci which would be sure to occur. Later, when the discharge had ceased, ointments could be used and it was important that they should be of a sufficiently solid consistency not to run into the covering and leave the surface dry. Later resort might be had to stimulating applications to patches which proved resistant and it had even been recommended to scarify very old and thickened parts.

Dr. GALLOWAY remarked that he thought that Dr. Whitfield had taken an appropriate opportunity for protesting against the too easily accepted hypothesis of the bacterial origin of eczema and he especially agreed with Dr. Whitfield in protesting that no special coccus such as the "morococcus" had been discovered to act as a specific organism. If anyone took the trouble to examine carefully the evidence on which Dr. Unna had based his description of his morococcus as the specific cause of seborrhœic eczema it would readily be seen how slight it was. In the case which Dr. Unna demonstrated before the Hamburg Medical Society, in which he had produced what he called his inoculation vesicle from pure cultures of this "white" coccus, the important clinical fact outstanding was that the lesion so produced was not eczema at all but something much more closely resembling impetigo. From the time of this demonstration this coccus had been quoted by Unna and many of his disciples as the specific organism in his large group of seborrhœic eczema. About the same time as Dr. Unna Professor Welch of the Johns Hopkins University had published his observations on the bacteriology of the skin. He showed that the organism which he called the "staphylococcus epidermalis albus" was a constant denizen in the skin, where it lived a saprophytic existence and appeared to produce no pathogenic effects. No sufficient evidence is on record to prove that the morococcus is not an organism of the same class, and there is much to support the view that it is simply a saprophyte. One could not help coming to the conclusion that if any organism does produce seborrhœic eczema, at any rate it is not the morococcus. Dr. Galloway felt inclined to look upon eczema as the ordinary inflammatory reaction of the skin to many varieties of irritation. There was little doubt that amongst these various irritants bacteria exercised considerable influence. The type of eczema which appeared to be of parasitic origin was the seborrhœic variety, but he wished to emphasise the fact that the evidence in favour of this at the present time is almost completely clinical and has no definite bacteriological support. It is most important, however, from the practical point of view, to recognise the fact that these varieties exist, as the use of appropriate remedies must be determined by the exactitude with which we are able to define the causation of any individual attack. The value which has long been appreciated of antiseptic remedies in the treatment of eczema depends upon the fact that certain manifestations of it are produced by parasitic influence. The more clear we are, therefore, in our recognition of the found facts of eczema produced or influenced by micro-organisms, the more successful will our treatment of the clinical varieties become.

Dr. ALFRED EDDOWES said that he found Dr. Unna's "bottle" bacillus so frequently in cases of seborrhœa that he was disposed to think with Dr. Unna that it probably had a causal relation to the disease. But this was hardly the time to deal with the bacteriology of eczema in detail. He thought the word "eczema" should mean a condition, not a definite disease, unless the word were qualified with an adjective. It was useful clinically to speak of seborrhœic eczema, impetiginous eczema, tuberculous eczema, &c. He had accidentally inoculated two of his nail-beds by handling a patch of impetiginous eczema and had obtained pure cultures of the staphylococcus aureus from the resulting subungual abscesses. Dr. Sims Woodhead referred to the fact in a paper in THE LANCET some years ago. He showed a photograph of a case of eczema contracted probably from a school thimble and expressed his opinion that this slowly advancing form of dry eczema was of tuberculous nature. He also showed a photograph to illustrate what he called "sympathetic eczema." He had painted a chronic, stationary, sharply defined patch of eczema on the right forearm of a gouty (?) patient with strong iodine tincture. On the next week an exactly symmetrical patch of eczema appeared on the left forearm. In attempting to explain this remarkable reaction he suggested that the vaso-motor system, like the muscular system, of nerves was so linked together that a sufficient stimulus to the centres could produce bilateral response, as was observed in the involuntary, genuine, bilateral laugh of the hemiplegic.

As for treatment there was much that might be said. It was easy to lay down certain definite principles which were always useful. We should keep in mind the physiological state of normal skin. We must dry a wet skin and grease a dry skin. Dabbing with spirit and dusting with powder answered the first requirement and ointments the latter, while pastes occupied the intermediate place and were most valuable. Take, for instance, a bad case of "scald head," eczema of scalp, in a child. One thorough dressing with a paste such as Lassar's frequently left nothing more to be done by the medical man or the mother for a whole week, and at once made such a case greatly better and quite manageable. He was surprised to hear Dr. Whitfield say that he did not find pastes of great service.

Dr. **BEZLY THORNE** said that he attached more importance to toxic conditions of the blood in relation to eczema than Dr. Whitfield was disposed to accord to them, and that he could not regard as valid the argument that if the kidneys were sound they must be innocent of mischief, because they might by habit and regimen be inhibited *from performance* of their normal function. He gave as an instance the case of a lady who had for seven years suffered from a severe form of eczema palmaris with inflammation of the matrices and deformity of the nails, amounting in the index fingers to partial destruction. The total daily ingestion of fluids, consisting of tea, coffee, and claret, barely amounted to seven-eighths of a pint. In three weeks the disease was arrested by the use of an ointment containing ammoniated mercury, of a mixture containing grain doses of potassium iodide, and by the ingestion of two pints of water daily. This result which had been maintained up to the present time was mainly if not entirely due, Dr. Thorne felt convinced, to the water which had restored to the kidneys the power of promoting the purity of the blood. He added that he entertained no fear of the local effect of salt water, as in every instance in which patients affected with *seborrhœic eczema had, under his observation, undergone a course* of saline baths the skin had become sound before the termination of the treatment. That result might possibly be attributed to the diuresis which the baths in all cases induced.

Dr. **WHITFIELD** replied.

LIVERPOOL MEDICAL INSTITUTION.

Anatomy of the Pineal Gland.—Some Points in the Structure of the Dental Tissues.—Exhibition of Specimens.

A MEETING of the Pathological and Microscopical Section of this society was held on Feb. 16th, Mr. F. T. **PAUL** being in the chair.

Dr **ALFRED W. CAMPBELL** read a paper on the Anatomy of the Pineal Gland and on Certain Pathological Conditions arising in it. He carefully described the naked-eye and microscopical characters of this organ He had examined a large number of pineal glands and showed that in all there existed either a definite central cavity—a ventricle—or else collection *of specialised tissue resembling* neuroglia. When the cavity was present it was surrounded by similar tissue. In some pineal glands he had found pigmented elements similar to those found in the retina. He also described several pathological conditions which he had found in the pineal glands of insane patients. (The paper was illustrated by anatomical and microscopical preparations and by some beautiful drawings and numerous lantern slides.)—Mr. **PAUL**, Mr. **LARKIN**, and Dr. **GRUNBAUM** discussed the paper and Dr. **CAMPBELL** replied.

Mr. F. T. **PAUL** read a note on Some Points in the Structure of the Dental Tissues and illustrated his remarks by some microscopic specimens and lantern photographic transparencies.—This note was discussed by Mr. **RUSHTON PARKER**, Mr. **LARKIN**, Dr. **GRÜNBAUM**, Dr. **MONSARRAT**, and Dr. **BUCHANAN**.

Mr. C. G. **LEE** showed an Epithelioma of the Auricle and discussed its frequency and relative malignancy in this situation.

Mr. **THELWALL THOMAS** showed a Testicle with part of the Spermatic Cord attached into which an extensive hæmorrhage had occurred. It was removed from a man 32 years of age. The swelling appeared spontaneously. There was great pain and the testicle was drawn up to the external abdominal ring. The microscope showed no new growth.

Mr. **LARKIN** showed for Dr. **JOSEPH WALKER** a large Pedunculated Soft Fibroid of the Labium Majus removed from a middle-aged woman.

Mr. **NEWBOLT** *showed the Left Humerus* of a boy, aged 16 years, the upper end of which was occupied by a round-celled sarcoma. Amputation was done 10 months ago and as yet there was no recurrence.

Dr. G. G. **STOPFORD TAYLOR** showed a Microscopic Section of an Epithelioma of a Lupus Scar. The growth was situated on the left side of the neck of a man, aged 46 years, who had suffered from lupus for 40 years.

Mr. **DOUGLAS CRAWFORD** showed some Microscopic Sections of a portion of an Enlarged Prostate. The part had been removed by suprapubic prostatectomy for urinary obstruction. The patient was 54 years of age and had already had bilateral vasectomy performed with no permanent benefit. The section was much more glandular than was usual.

Dr. **ALEXANDER** showed the Brain of a Male Epileptic, aged 20 years. There was complete atrophy of the left temporo-sphenoidal lobe and the posterior parts of the frontal convolutions. The fits began in and affected chiefly the right side of the body. The right leg was permanently partially paralysed, but the paralysis was always much increased after a fit.

Dr. **BUCHANAN** showed specimens illustrating the Structure of Molluscum Contagiosum.

A short discussion followed in which several members took part.

PLYMOUTH MEDICAL SOCIETY.—A meeting of this society was held on Feb. 11th, Mr. M. H. Bulteel, President, being in the chair.—Mr. F. Everard Row read a paper on the Diagnosis and Treatment of Surgical Diseases of the Kidneys with especial reference to Stone and Tubercle. The *chief symptoms for the diagnosis of stone and tubercle were,* he said, (*a*) pain, (*b*) the condition of the urine, (*c*) enlargement or otherwise of the kidney, and (*d*) reflex symptoms such as vomiting and retraction of the testicle. The pain in both diseases was liable to the greatest possible variation both in intensity and situation, but more especially so in calculus, and was due to several causes, as, for instance, to the passage of either a stone or débris of new growth down the ureter producing what was known as renal colic. The pain of stone was more frequently reflected and paroxysmal and was often referred to the neck of the bladder to which attention was drawn instead of the true cause, but may be reflected anywhere from the shoulder to the neck. Large stones embedded in the substance of the kidney as a rule caused less pain than smaller stones, which might be free in the pelvis of the kidney or become impacted in the ureter. Hæmaturia was a frequent accompaniment of stone, but was not so frequent in tubercle. Pus was present in both tubercle and stone; but in tubercle it appeared early in the disease; in stone it was not present unless pyelitis had been set up by the irritation of the foreign body. Unless a kidney was much enlarged it was not easy to palpate it. When the enlargement was due to calculi crepitus might be felt by placing one hand in the loin and pressing the kidney towards the fingers of the other on the abdomen. As to the reflex symptoms, vomiting due to renal colic did not differ from that due to other causes. Retraction of the testicle was one of the most important features in renal stone. In tuberculous disease early nephrectomy afforded the best chance of cure. When disease of the other kidney was obvious or even uncertain nephrectomy was a futile or dangerous proceeding and nephrotomy and drainage should be resorted to. In calculus the treatment resolved itself into palliative and operative. Palliative treatment consisted in relieving the pain of renal colic by hot baths, fomentations, and anodyne injections. The operative treatment consisted of exposing and puncturing the kidney and if a stone was found incising the organ and removing the foreign body. If the kidney was disorganised by a number of stones and by pyelitis and the other kidney was known to be present and in fair working order either by cystoscopic examination or by an incision in the loin nephrectomy was indicated. In order to determine this latter point abdominal nephrectomy was taking the place of the lumbar method.—Cases and specimens were exhibited by Mr. Row, Mr. Woollcombe, Dr. Pethybridge, Dr. Rider, and Mr. J. R. Rolston.—A communication was read from the Corporate and Medical Reform Association and on the motion of Dr. Shaw, seconded by Mr. J. R. Rolston, the following resolution was carried *nem. con.*: "That this meeting of the Plymouth Medical Society begs to accord to the Direct Representatives of the medical profession on the General Medical Council and those who supported them a hearty vote of thanks for the action they have taken on the question of Illegal Certificates of Proficiency in departments of medicine, surgery, or midwifery."—A communication was read from the Medical Institution of Liverpool on the amendment of the Vaccination Act, 1898, but it was decided to take no action in the matter at present.

OXFORD MEDICAL SOCIETY.—The fourth ordinary meeting of this society was held on Feb. 10th in the Anatomical Theatre at 8.30 P.M., Mr. H. P. Symonds, President, being in the chair.—Mr. Farmer showed specimens of (1) Hour-glass Stomach from the body of a man; (2) Vermiform Appendix lying in the Post cæcal Fossa and attached firmly to the intestine; and (3) a Skull with a Clean-cut Perforation through the Mastoid Process exposing the antrum. No history attached to the specimen, but the opening suggested the trephine.—Mr. Winkfield read a paper on the Use of Antitoxin in Diphtheria. Reviewing the mortality returns of this disease in Oxford during the past 10 years he showed that there had been a striking decrease in mortality since the discovery of antitoxin (from 34·3 per cent. before 1894 to 14·17 per cent., the present rate of mortality). He laid stress on the fact that in no case did laryngeal symptoms set in after injection of antitoxin, while in several cases its timely use rendered tracheotomy unnecessary. He used Behring's serum, giving 600 units as an ordinary dose in mild cases. For more severe cases 1000 units were recommended, while 1500 units were regarded as a "treble dose." For prophylactic purposes 200 units were sufficient. He rarely had occasion to repeat the injections. After one injection the membrane was noticed to curl up at the edges and to clear off rapidly, the glandular swellings subsided, and the throat was usually clear within a week. He noticed copious perspiration and a tendency to faintness after injection and usually kept the child lying down for three weeks. A rash had occurred occasionally, but he had had no kidney complication.—Mr. Parker read a paper on Training in Relation to Athletics. He drew attention to two points—(1) regular and graduated exercise and (2) diet. These two methods he stated to have been in vogue since ancient times, especially among the Greek athletes. Their diet was farinaceous at first, but meat was substituted later. He advocated that the chief exercise in training should be that for which the athlete was preparing. By gradually increasing the amount of work done the body might be trained to undertake tasks which at first would have been impossible. Therefore, in those athletics, such as rowing, which required severe and prolonged exertion the training should be long and gradual. Rowing in untrained men was distinctly harmful. Mr. Parker insisted on the importance of training on individual merits. He deprecated the sudden change from an ordinary diet to an almost entirely proteid one. Since physiologists showed that muscular exertion, unless carried to exhaustion, did not involve increased nitrogenous waste he advised that the bulk of food taken by an athlete in condition should be of the carbohydrate order. He discussed the question of "second wind" and "staleness." He regarded "second wind" as either the result of the readjustment of the systemic and pulmonary circulation or as due to the toxic products of muscular action acting on the respiratory centre. "Staleness" he thought was probably an auto-intoxication.—An interesting discussion followed.

IPSWICH CLINICAL SOCIETY.—A meeting of this society was held on Feb. 9th, Mr. S. O. Eades, President, being in the chair.—The President showed a patient from whom a large Myxo-sarcoma of the Parotid Gland had been removed. The patient was a man, aged 46 years, and the growth first occurred at the age of 21 years; it was removed by Mr. Christopher Heath when the patient was 27 years of age; it recurred and was removed a second time at the age of 36 years, since which time—i.e., ten years ago—there had been no sign of recurrence. Photographs of the case at different periods were also shown.—Mr. C. K. Moseley read notes of a severe case of Purpura Hæmorrhagica in a girl aged 11 years. Bleeding from the gums was first noticed and hæmaturia and constant vomiting were marked symptoms in the case. Jaundice supervened, but the child eventually made a complete recovery. Mr. Moseley had found turpentine a most efficacious drug in this condition.—Mr. Moseley also read notes of a case of Retention of Urine in an old man, aged 80 years, the subject of right-sided hemiplegia. He suddenly passed a large quantity of pus and this was followed by retention. It was found impossible to pass an instrument into the bladder and after aspirating once or twice Mr. Moseley performed suprapubic cystotomy. He was unable to pass a bougie into the urethra from the bladder and the patient now had a permanent urinary fistula kept open by means of a tube and refused any further surgical interference. There was no prostatic enlargement and the cause of the retention was probably a peri-urethral abscess.—Dr. Brown showed a specimen of Sarcoma of the Bladder with Secondary Growths in the Liver. The patient was suspected to be suffering from stone in the kidney and died suddenly from hæmoptysis.—Dr. Brown also mentioned a case of Hæmaturia in a woman five months pregnant in which the diagnosis was obscure. Labour was induced and complete recovery rapidly resulted.—Dr. Ward read notes of a case of Sarcoma of the Bladder in which the growth was found to be too extensive for removal. The patient died from septic meningitis two days after operation.—A prolonged discussion took place on the subject of the Hospital Accommodation in Ipswich for infectious cases and especially for cases of diphtheria.—Mr. Corfe stated that since the last meeting of the society the board of management of the East Suffolk and Ipswich Hospital had decided to admit to the wards cases of diphtheria requiring tracheotomy.—Mr. G. S. Elliston, medical officer of health, thought that every medical practitioner should use the diphtheria antitoxin before sending cases to the fever hospital.—The following resolution was unanimously passed: "That in the opinion of the members of the Ipswich Clinical Society the present accommodation at the infectious hospital of this town is insufficient and that Mr. G. S. Elliston, medical officer of health, be asked to approach the Health Committee to provide proper room for increased treatment, with special reference to the desirability for accommodation and treatment of persons suffering from diphtheria."

FORFARSHIRE MEDICAL ASSOCIATION.—A meeting of this society was held in the University College, Dundee, on Feb. 3rd, Dr. McGillivray being in the chair.—Professor Kynoch showed a Solid Tumour of the Ovary associated with a Multilocular Cyst weighing seven and a half pounds removed on account of rapid ascites. The liver was cirrhotic and so the cause of the ascites was doubtful. Reference was made to two other cases of solid ovarian tumours.—Dr. Halley showed a uterus from a case of Ruptured Extra-uterine Gestation and with a second fœtus in the uterus. The patient, aged 29 years, was admitted to the Royal Infirmary, Dundee, in an extremely collapsed condition suffering severe pain which had come on suddenly eight hours previously. She stated that she was seven weeks pregnant. On opening the abdomen it was found to be filled with blood which was seen to be escaping from a rupture in the right Fallopian tube just external to its junction with the uterus, which was noticed to be somewhat enlarged. The Fallopian tube was ligatured as rapidly as possible and the wound closed. The patient scarcely rallied at all from the excessive bleeding before the operation and died in 10 hours.—Dr. J. W. Miller read notes of a case of Lateral Sclerosis which he had had under his care 20 years ago. The illness commenced with a sudden attack of abdominal pain which recurred at intervals and was followed later by tetanic contractions, at first in the right arm and later extending. These tetanic spasms were the most marked symptom and were easily induced. The patient lived three and a half years, having been bedridden three months before her death with paralysis of the upper and lower extremities but having no impairment of the intellect.—Professor Stalker gave an account of a case of Bright's Disease with Uræmia which had been treated by venesection with the result that the convulsions ceased. When any signs of impending uræmia showed themselves venesection was performed and the signs disappeared and the convulsions were prevented. After four venesections the headaches did not recur but the daily amount of urine still remained low. This improved under internal administration of pilocarpine and tapping of the abdomen for ascites. Other remedies had failed and the patient was now doing well. Professor

Stalker referred to a similar case which his colleague Dr. Whyte had treated by venesection with the result that the fits ceased. He thought that venesection was of distinct benefit in cases of kidney disease where there was very little dropsy and persistent headache and also in some cases in which cardiac distress was at its worst.—Mr. Steele Moon quoted two cases in which he had performed venesection with improvement when other remedies had failed, one of Bronchitis with marked dyspnœa and the other of Uræmia.—Dr. J. W. Miller, Professor Kynoch, and Dr. Duncan also spoke.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 15th, the President, Mr. T. Davies Pryce, being in the chair.—Mr. A. R. Anderson read a paper on the Radical Cure of Hernia, based on 117 cases in which he had operated for the radical cure of inguinal hernia, to which variety he confined his remarks. These included strangulated cases in which this operation had been done There were four deaths, two occurring in the strangulated cases. The deaths in the non-strangulated cases were one from bronchitis after ether and one from cellulitis of the abdominal wall in a fat, middle-aged man with a bulky, irreducible hernia containing large intestine. Of late Mr Anderson had exclusively performed the Bassini-Halstead operation which he considered as the best. 60 cases had been operated on by this method without a single relapse as far as he was aware. He said that his results would not be accepted by many surgeons as it was only three years since he commenced to perform this operation, but he considered that experience of Bassini's operation would remove the doubt which was felt by some as to the probability of a radical cure being effected by operative means. He agreed that this doubt still existed for all operations which left the cord in the canal and did not obliterate as well as close it. He did not admit that five years must elapse before a Bassini's operation could be accepted as effecting a radical cure; on the contrary, an examination of the dense resulting cicatrix occupying the site of what was once the inguinal canal conveyed the conviction from the first that the patient would never again be ruptured at this spot. Mr. Anderson described the operation which he was in the habit of performing and discussed the questions of the wearing of a truss after operation and the advisability of operating in young children. He never ordered a truss after Bassini's operation unless the circumstances were altogether exceptional. With respect to operating on children he said it should be adopted as the routine treatment at any age in the children of the poor and in the children of the well-to-do in all cases of complete scrotal hernia. Among the children of the former it was impossible to ensure accurate fitting of trusses or pads and very difficult amongst those of the latter, whilst the absence of mortality and the tendency towards cure rendered the operation at that period of life one of the most successful in surgery. Mr Anderson showed two cases in which he had recently operated—viz., a man, aged 25 years, and a child, aged one and a half years, and directed attention to the obliteration of the canal, the absence of bulging, and the firmness of the scar.—Mr. Willis showed a man, aged 18 years, suffering from Dyspnœa of many years' duration caused by an unilateral enlargement of the thyroid which he suggested was an adenoma and proposed its enucleation.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.—A meeting of this society was held on Feb. 9th, Dr. James Murphy being in the chair.—Dr. G. V. Miller exhibited a case of Recurrent Intra-ocular Hæmorrhage. The patient was a man aged 28 years. Five months ago he observed a black spot before the right eye which gradually increased in size and in four hours the eye had become totally blind. 15 years before, and again five years ago, the patient had noticed a similar fly like spot before the same eye followed by dimness of vision lasting about a fortnight. There was no history of injury or any discoverable cause, though the patient had been the subject of frequent attacks of epistaxis. At the onset of the present attack there was evidence of extensive intra-ocular hæmorrhage, either sub-hyaloid or between the retina and choroid, the media at that time being clear. At a later date, however, the hæmorrhage had evidently burst into the vitreous.—Dr. T. Oliver brought forward a man suffering from Plastic Bronchitis and exhibited several large and very perfect Bronchial Casts which the patient had expectorated. The history extended over a period of four years. The casts in this case were solid and not tubular. No cause had been discovered.—Dr. G. R. Murray showed the following patients: 1. A case of Unilateral Glosso-laryngeal Paralysis in a man aged 46 years. The lesion was not considered to be central but rather due to a localised syphilitic meningitis involving the roots of the spinal accessory and hypoglossal nerves. 2. A case of Progressive Muscular Atrophy in a woman aged 43 years. 3. A case of Locomotor Ataxy with Goitre. This patient, a man aged 52 years, had a definite history of syphilis. 4. A Cretin. This patient, a woman aged 23 years, showed distinct though slight evidences of cretinism. There was still apparently a considerable amount of active thyroid tissue.—Dr. Hume exhibited three cases of Operation on the Stomach.—Mr. Williamson showed a boy upon whom he had recently operated for Acute Infective Epiphysitis of the Upper End of the Humerus.

BIRKENHEAD MEDICAL SOCIETY.—A meeting of this society was held on Feb. 10th, Mr. H. Nazeby Harrington, President, being in the chair.—The following resolution was unanimously adopted: "That the fee of one guinea should be charged for filling up certificates under the Workmen's Compensation Act and that hospital authorities should be asked to allow their house surgeons to charge the same"—Dr. James Barr (Liverpool) read a paper on Meningitis. He entered minutely into the etiology, pathology, and symptoms of the different types and held out a much more favourable prognosis than was usually given in such cases. In the way of drugs his sheet-anchor was opium freely administered. Latterly he had been using morphia almost exclusively in quantities varying from about two up to six grains daily. In very young children he started with a twentieth of a grain every three hours and rapidly increased the quantity so as to keep the child constantly under the action of the drug. With children of six or seven years of age he began with a sixth of a grain; over that age he generally gave the drug hypodermically. In a very successful case in an adult he administered six grains daily for a fortnight. He said that if the treatment was commenced early before there was any effusion into the ventricles a patient suffering from meningitis would not be easily poisoned with opium. He did not, however, look upon opium as a specific for this or any other disease. The bowels were kept open and as occasion required various remedies were used to check vomiting, while almost as a routine internal antiseptics such as salol, benzo-naphthol, &c., were used.

ÆSCULAPIAN SOCIETY OF LONDON.—A meeting of this society was held on Feb. 17th, the President, Mr. D. H. Goodsall, being in the chair.—Mr. A. Quarry Silcock read notes of a case of a boy, aged 18 years, who had been Run Over by a Cart; he had been laid up with abdominal pain for five weeks and his left hypochondrium was swollen and dull to percussion anteriorly and resonant posteriorly. The abdomen being opened a cyst resembling an ovarian cyst was found to be inseparably fixed to the stomach. Accordingly the cyst was incised and drained, and its edges were stitched to the abdominal wound. The contained fluid was blood-stained and alkaline, its specific gravity was 1018, and it had lymph corpuscles and granules; there was no ferment present. He regarded this as a mesenteric cyst resulting from the injury.—Dr. A. Morison showed a series of cases of Heart Disease and said that belladonna was preferable to digitalis in simple aortic incompetence, though if that state were supplemented by mitral incompetence digitalis was useful. Bradycardia, as tachycardia, had (1) a nervous origin and (2) a cardiac origin. In the latter case treatment by drugs failed but in the former it was efficient. The combination of digitalis and strophanthus excelled either alone. The value of arsenic in heart cases on account of its improving nerve tone should be borne in mind.—A general discussion followed.

NEWPORT MEDICAL SOCIETY.—A meeting of this society was held on Feb. 1st, the President, Mr. H. E. Williams, being in the chair.—Mr. O. W. Morgan showed a case of Cystic Tumour of the Neck.—Mr. H. B. Seddon read notes and showed a case of Raynaud's Disease.—Mr. J. Lynn Thomas read a short paper on Thyroidectomy with and without General Anæsthesia and showed a specimen of Tumour Removed. Mr. [illegible] form of Scissors for Conveni[illegible] [illegible]ry read the report of the committee referring to the proposed lending library of the society with draft of rules. The same were discussed and agreed to.

Reviews and Notices of Books.

George Harley, F.R.S., or the Life of a London Physician. Edited by Mrs. ALEC TWEEDIE. London: The Scientific Press, Limited. 1899. Price 16s.

THE late Dr. George Harley was a well-known physician and as he has been dead only a little over a year both his name and his work will be familiar to our readers. The detailed story of his life is largely compiled by his daughter, Mrs. Tweedie, from diaries or autobiographical memoranda and is designed to please and inform a lay public rather than a medical one.

George Harley's life was not exactly typical of the life of a London physician, so that Mrs. Tweedie's sub-title is to some extent misleading. He was born in Haddington and educated in Edinburgh, Paris, and Vienna, and certain German Universities. He did not come to London until his twenty-sixth year, when he was appointed Assistant Director of the Anatomical Museum of University College, mainly, it would appear, through the intervention of the all-powerful Sharpey who recognised the breadth of his biological work. During his student days at Paris he went considerably into certain classes of French society and, being a French scholar was able to appreciate the things that he saw and heard and to reap much more benefit from a sojourn in a foreign university than accrues to the usual British student. From the knowledge of French manners thus acquired he was able to write down in his diary some interesting observations concerning Napoleon III., the infamous *coup d'état*, and the vexed question of whether that curious ruler was or was not a coward. On obtaining a *locus standi* in London George Harley appears to have made his way rapidly both in society, particularly of what we may call the upper Bohemian sort, and in the world of science. His methods were original and thorough and his power of work was appreciated by his contemporaries as well as by his seniors. He was early elected a member or corresponding member of many learned societies, a Fellow of the Royal College of Physicians of London, and in 1865 a Fellow of the Royal Society. At University College he was a successful lecturer, holding his own in such good company as Sir William Jenner, Sir John Erichsen, Sir J. Russell Reynolds, Dr. Charlton Bastian (whose name the author misspells), Sir Alfred Garrod, and Dr. W. Hayle Walshe. (Is this distinguished physician the person whom the author alludes to as "Mr. Walsh, the eminent surgeon"?) At University College Dr. Harley made microscopic studies his passion and to overwork at the microscope must be attributed a terrible physical calamity which fell upon him in 1866. He became suddenly blind under circumstances which have been described by himself in the columns of THE LANCET.[1] For nine months he lived in total darkness—not simply in a darkened room but in total darkness—and during that time and the period immediately following he kept a record of the sensations and his acquired ability to see in the dark, the time that visual impressions lasted, and the order in which appreciation of colours returned. For an ardent worker and an ambitious man still in the prime of life thus to behave in the face of such an overwhelming calamity as total blindness is a signal proof of courage. It was two years and a day before he was able to take up his work again and he then had to wear darkened glasses, but as time went on he recovered his powers of sight.

The most interesting chapters in the book to medical men are those near the end dealing with Dr. Harley's scientific and other hobbies. We do not in the least agree with his arguments in favour of a simplification of English spelling and we consider his views with regard to champagne to be as unsound in theory as in practice they are contrary to general experience; but we can at the same time appreciate the activity of mind which impelled him to make investigations for himself at first hand in so many by-paths of science. On the whole the book is well done, though Mrs. Tweedie should have been more careful in certain of her expressions lest she should be assuming for Dr. Harley a position as a scientific pioneer to which he has no right and which he certainly would never have claimed for himself. We point this out with reluctance because the feelings which have in a few passages betrayed her into a phraseology against which we must protest do credit to her affection. Such sentences as, "Medical science was literally groping in the dark when George Harley first came to London," "In the days when my father came to London *anatomy and physiology* were taught together," "The proof that spontaneous generation did not exist led my father's old friend Lord Lister," &c., "The discovery of anæsthesia also came prominently before the public in George Harley's lifetime," either mean nothing or they imply that the late Dr. Harley played a foremost part, not only in the evolution of scientific medicine—where some claim might be made out—but in the discoveries of antiseptic methods and of anæsthetics. Mrs. Tweedie we acquit of intentionally misleading her readers, but her book is written for the laity who might easily receive wrong impressions from her habit of grouping vast scientific developments (if only loosely) round her father's name. Nor do we like the expression "George Harley of Harley-street," the Christian name making the address unnecessary; while the statements that Dr. Harley chose the house in the street "because of family associations" and when medical men were scarce in the neighbourhood are not convincing. There were upwards of 20 medical men living in Harley-street a year before Dr. Harley went there. But we do not desire to lay undue stress upon the blemishes in taste or small errors in fact which have caught our attention in the perusal of a book that is pious in its aims and spirited in its performance.

Manual of Operative Surgery. By H. J. WARING, M.S., M.B., B.Sc. Lond., F.R.C.S. Eng., Demonstrator of Operative Surgery and Surgical Registrar, late Senior Demonstrator of Anatomy, St. Bartholomew's Hospital; Surgeon to the Metropolitan Hospital, &c. Edinburgh and London: Young J. Pentland. 1898. Pp. xxvi.-661. Price 12s. 6d.

IT must always be a difficult matter to write a treatise on operative surgery which will prove satisfactory in every respect; for if the work be intended as a guide to the student in the operations which he performs on the cadaver it will hardly prove of much practical value to the operating surgeon. We must confess that the difficulties which we have indicated have been overcome in a very able manner by Mr. Waring and as a result we find a small volume which gives a complete account of all the operations which are usually performed by students in a course of operative surgery and in addition many operations are described which are practically never performed on the dead body; in fact, the work forms a complete manual for the student of the ordinary and of many of the rarer operations of surgery.

The first chapter contains an account of the preparations which the patient should undergo both with regard to asepsis and to anæsthesia. Then follows an account of the methods in which a knife should be held in making incisions through the skin and other structures An account is given of the various methods of suturing, but the "continuous suture represented is hardly so useful as the "buttonhole" suture which holds together better the edges of the skin We cannot concur in the opinion expressed that a "granny' knot is more liable to slip than a 'reef' This is, indeed, what is usually taught but experiment will readily show it to be erroneous The reason for the preference shown by sailors for the reef knot is that it can be much more readily "upset than the "granny'

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[1] Auto-clinical Remarks on Injury to the Retina from Overwork with the Microscope, by George Harley, M.D., F.R.S. THE LANCET, Feb. 1st, 1868.

The order in which the operations are taken may appear at first sight to be somewhat peculiar, it is that which is adopted in the practical classes in operative surgery at St Bartholomew s Hospital and it has been found to be most useful when only a small number of bodies are available for operative surgery After this explanation we need not feel surprise that the next chapter describes the operation upon the stomach and the intestines Students often experience a difficulty in comprehending the method of application of Lembert s and other intestinal sutures but no one could fail to understand after seeing the excellent diagrams which the author has supplied The description of each operation, not only in this section but also in all the others, is preceded by an account of the chief indications for it

It is difficult to say which part of the work is best where all is so good, but we are inclined to think that the chapter dealing with the surgery of the skull and brain is the most satisfactory of all The account of the ligature of arteries in their continuity and the description of the amputations and excisions which are usually practised are clear In speaking of excision of the shoulder why does Mr Waring call the anterior incision which commences near the top of the coracoid process the "external incision?

Mr Jessop has contributed a short chapter on Ophthalmic Operations which contains all that is needed by the ordinary student

We consider that Mr Waring has executed his task with much success and his work should prove a popular handbook of operative surgery for students, and to that end we heartily commend it

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LIBRARY TABLE

The Practice of Surgery a Treatise on Surgery for the Use of Practitioners and Students By HENRY R WHARTON, M D Demonstrator of Surgery in the University of Pennsylvania Surgeon to the Presbyterian and the Children s Hospitals, and B FARQUHAR CURTIS M D, Professor of Clinical Surgery in the New York Post-Graduate Medical School and the Women's Medical School of the New York Infirmary Profusely illustrated London and Philadelphia J B. Lippincott Company 1898 Pp 1240 Price 25*s* net —We do not remember to have seen hitherto any American work which so closely approaches the ideal text book on surgery for students as does this book The advances in surgery of late years have so enlarged the bounds of the subject that it is every year increasingly difficult to compress into one volume all the surgical facts with which a student or practitioner should be acquainted We think that the authors may be congratulated on having produced a work which is readable and exact and in which the accounts of disease and injury are sufficiently detailed for the purpose for which the book is intended. A considerable degree of care has evidently been exercised in reducing to moderate dimensions descriptions of conditions and of treatment which would ordinarily have occupied many times the amount of space The 923 illustrations are drawn from many sources, but the majority are original and many of them are striking It is very characteristic of modern surgery that the first chapter of the book is devoted to an account of those bacteria which are of importance to the surgeon and though somewhat brief, it is probably sufficient It is obvious that 1200 pages of text must present many opportunities for discussion but we have been surprised to find very few points indeed on which we are decidedly at variance with the opinions of the authors who have evidently striven to present the general current views on debateable points rather than their own personal opinions The chapter on the Injuries and Diseases of the Eye has been written by Professor G E Schweinitz and it is fully as satisfactory as the rest of the book

On Varix, its Causes and Treatment, with especial reference to Thrombosis By WILLIAM H BENNETT, F R C S Eng, Surgeon to St George s Hospital and Joint Lecturer on Surgery in the Medical School; Member of the Court of Examiners of the Royal College of Surgeons of England, &c Reprinted from THE LANCET, Oct 15th, 1898, with the addition of Twelve Illustrations 8vo London, New York, and Bombay Longmans, Green, and Co 1898 Pp 63 Price 3*s* 6*d* —This is a reprint of an address which Mr Bennett delivered at the inaugural meeting of the Nottingham Medico-Chirurgical Society for the session 1898-99 It gives a very good account of a by no means unimportant subject and it is especially valuable as representing the personal opinions of the author on a diseased condition to which he has devoted much attention Mr Bennett considers that the causes of varicose veins may be divided into four classes, in many cases the varicose veins are congenital, and even when they are due to an obvious exciting cause, yet a congenital predisposition is extremely probable, in other cases obstruction of the blood current by pressure brings about the varicosity, in a third class are the cases which follow a strain, and in the remaining cases the cause is thrombosis The author gives several clinical histories which show strikingly the influence of severe strains in giving rise to varicose veins of the limbs As to the treatment, Mr Bennett lays great stress on the harm that may follow the use of ill fitting elastic stockings, he tells us that he has known grave thrombosis to result Operative treatment to be effective must include excision of a portion of the long saphenous vein a little above the knee so as to cut off the long column of blood in the valveless saphena The author insists on the fact that a "cure' in the ordinary meaning of the word can never be promised even in the cases most suitable for operation, though much discomfort may be relieved and conditions dangerous to the integrity of the limb and possibly to life may be removed

The Year book of Treatment for 1899 A Critical Review for Practitioners of Medicine and Surgery Illustrated. London, Paris New York, and Melbourne Cassell and Co, Limited Price 7*s* 6*d* —This, the fifteenth, annual volume of the Year book of Treatment is fully on a level with its predecessors, and in saying that we have said all that is necessary to those who have known earlier issues of this work The Year book of Treatment differs from most other year books of medicine and surgery in that it confines itself to treatment, and it is in treatment that most medical practitioners feel that they need some assistance in keeping up with the ever advancing tide of science The impressive list of contributors to this volume must serve to show that the articles fully represent the most recent additions to our knowledge Perhaps the most important section is that devoted to an account by Dr Burton Fanning of the Open air Treatment of Phthisis The copious indexes to authors and subjects add greatly to the usefulness of this valuable publication

Travaux de Neurologie Chirurgicale. Revue Trimestrielle, dirigée par le Docteur A. CHIPAULT. Paris: Vigot Frères. 29 Figures. 96 pp. Price 4 fr. January, 1899.—Dr. Chipault's journal, which has hitherto been published once a year, now makes its first appearance as a "quarterly." It consists entirely of original articles, several of them of great interest. 1. Experimental Researches on the Methods of Trephining in Prehistoric Times, by Professor Capitan. 2. On a Case of Local Lesion of the Rolandic Region (adhesions from meningitis), by Professor Raymond. The lesion gave rise to Jacksonian fits, but they continued after removal of the affected membranes. 3. A Case of Traumatic Abscess of the Right Temporo-sphenoidal Lobe, by Signor Roncali. One abscess was evacuated, but the patient did not improve and after death two large abscesses independent of the first were discovered, one in the right frontal lobe and the other in the middle lobe of the cerebellum. 4. A Case of Intradural Resection of the Posterior Cervical Nerve Roots for the Relief of Neuralgia in a Painful Stump, by MM. Monod and Chipault. 5. On Deviations of the Cord in Pott's Disease, by M. Cestan. 6, 7 and 8. Treatment of Perforating Ulcer by Nerve-Stretching, by MM. Duplay, Finet and Soulier. 9. On the Instruments required for Excision of the Sympathetic, by Professor Jonnesco. 10. A Case of Myxoma of the Superior Cervical Ganglion of the Sympathetic found at the operation of removal of the sympathetic for the relief of epilepsy in a melancholic patient, by M. Chipault.

The Microscope. By JABEZ HOGG, M.R.C.S. Eng., F.R.M.S. Fifteenth edition. London: George Routledge and Sons. 1899. Price 10*s.* 6*d.*—When a book has reached its fifteenth edition it is difficult to find anything to say about it which has not been said before. The first edition appeared so long ago as 1854, when, as Mr. Hogg remarks in the preface to the present edition, the microscope was seldom or never employed in the laboratory or in the medical schools. It is needless to say how different matters are nowadays. The present volume, though greatly enlarged from the former ones, does not pretend to deal with medical microscopy except in so far that it gives an account of one or two of the better-known pathogenic bacteria, such as the bacillus anthracis and the bacillus pestis. But as regards a large portion of the other subjects with which microscopy deals it is a mine of information. The book is very well printed and is fully and admirably illustrated.

Sajous' Annual and Analytical Cyclopædia of Practical Medicine. Vol II.: Bromide of Ethyl to Diphtheria. Philadelphia: The F. A. Davis Company. Price 5 dollars.—The second volume of this admirable work has made its appearance. We noticed Vol. I. in THE LANCET of May 28th, 1898. In the present volume will be found articles which are practically monographs by such authorities as Professor Adami of Montreal upon Cirrhosis of the Liver; by Professor Lépine of Lyons upon Diabetes; and by Dr. William Browning of Brooklyn upon Cerebral Hæmorrhage. There is also an admirable and exhaustive article upon Diphtheria by Dr. Northrup and Dr. Bovaird of New York. We have selected these articles not in any invidious sense but simply because they happened to be the most striking and to deal with the better known diseases, but the volume contains information upon nearly every conceivable medical and therapeutical subject within the alphabetical limits assigned to it. One omission, we have noted, occurs in the article on Calcium in which under "Therapeutics" there is no mention of the use of calcium chloride in hæmorrhages and various forms of urticaria as studied by Dr. Wright of Netley. The printing, binding, and illustrations of this volume are as admirable as those of the first.

JOURNALS.

Scottish Medical and Surgical Journal.—In the opening article of the February number Dr. J. J. Graham Brown discusses the Symptoms, Pathology, and Prognosis of Diabetes. Mr. Rutherford Morison contributes an Abstract of Clinical Lectures on Gall-stones. A gall-stone, he says, is more serious than a urinary calculus and the operation for the removal of the former is as safe as that for the excision of the latter. Dr. Francis D. Boyd describes two cases of Regurgitation at the Pulmonary Artery. The diagnostic features are the location of the point of differential maximum intensity in the second interspace to the left of the sternum; the conduction of the murmur down to the left border of the sternum; the area of audition of the murmur being wide downwards and to the left, very limited upwards or to the right; and the absence of any such characteristic alteration in the pulse as is found in aortic incompetence.

Edinburgh Medical Journal.—In the February number Dr. F. W. N. Haultain publishes a retrospect of a first series of 110 Abdominal Sections for Pelvo-abdominal Disease, with two deaths. Dr. J. H. Ferguson describes the occurrence of repeated Ectopic Pregnancy in the same patient. An article on the Bacteriology of Typhus Fever has been noticed already in THE LANCET of Feb. 11th (p. 390).

Dublin Journal of Medical Science.—In the February number Dr. Alfred Smith gives a summary of a second series of Abdominal Sections—100 cases with two deaths. Captain W. J. Buchanan, I.M.S., writes on Cerebro-spinal Fever in India. Dr. H. T. Bewley describes a case of Chyluria in which filariæ could not be found in the blood. Dr. Patrick Letters continues his paper on Preventable Disease in the Counties of Cork, Kerry, and Waterford. He mentions that in England only 58 persons died from typhus fever in 1895, but that in Ireland there were 129 deaths from this disease in 1896 and 121 in 1897.

Birmingham Medical Review.—The February number opens with a practical paper by Mr. W. J. McCardie on Nitrous Oxide and its Uses, with especial reference to the advantages of a mixture of nitrous oxide and oxygen. He has administered such a mixture several times most successfully for a period of a quarter of an hour and once for 24 minutes during a plastic operation on the vulva. The other original article is Dr. E. W. W. White's Middlemore Post-Graduate Lecture on Inflammations of the Conjunctiva.

Mercy and Truth.—In the February number Dr. A. R. Cook gives some notes of a journey of 750 miles in the neighbourhood of the lakes which supply the Nile. On the way he had many patients and did various operations.

Medical Chronicle.—The original articles in the January number are: (1) Observations upon the Pathology of Intracranial Suppuration of Otitic and Rhinitic Origin, by Mr. W. Milligan of the Manchester Ear Hospital, and (2) a continuation of a paper on Fractures and Dislocations of the Upper Extremity, by Mr. J. E. Platt, late resident surgical officer to the Manchester Royal Infirmary.

Monist.—A paper with the heading "Vitalism" in the January number is an examination from a metaphysician's point of view of Professor Japp's Presidential Address delivered before the Chemical Section of the British Association in 1898. The writer is Professor C. Lloyd Morgan of Bristol who takes up the position that "if by Vital Force we mean the noumenal Cause of the special modes of molecular motion that characterise protoplasm, its metaphysical validity may be acknowledged, so long as it is regarded as immanent in the dynamical system and not interpolated from without in a manner unknown throughout the rest of the wide realm of nature."

New Inventions

THE AUTOMEASURE (KEMPER SALOMON)

THE accompanying illustrations show an ingenious measuring device in its application to a medicine bottle Its construction is quite simple It consists (Fig 1) of a glass tube shaped somewhat like a funnel It is closed at the top by a tightly fitting cork containing a rubber valve kept in position by means of a spring On depressing the valve with the finger air may enter into the glass tube The capacity of the tube which we examined was one teaspoonful It is used in the following way The tube is fitted to the neck of the medicine bottle (Fig 2) by means of a cork collar On inverting the bottle the tube fills with the liquid On restoring the bottle to its original position the liquid remains in the glass tube It is then detached from the bottle and on depressing the valve with the finger exactly a teaspoonful of liquid is discharged It should be very useful for the purpose and is further an important introduction since it effects accuracy and uniformity of dosage It removes the objection of using teaspoons for the purpose which varying in size, give different doses It is very convenient to use and cleanly The specimens which we examined were submitted to us by Mr Richard Hilgers, Old Trinity House, 5, Water lane

FIG 1

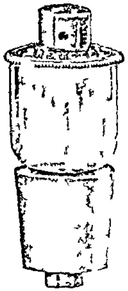
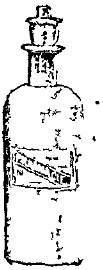


FIG 2



CLINICAL OZONE APPARATUS

THE employment of ozone as a gaseous antiseptic and in diluted form—that is, mixed with air for inhalation purposes—is now well known The convenient production of pure ozone is therefore of importance The device about to be described is an ingeniously designed generator which yields ozone with a comparatively mild current of electricity without being contaminated with irritating oxynitrogen compounds Its construction provides for the silent discharge of the current from the induction coil The inner glass tube is packed with small copper turnings while outside the tube is wound a spiral of copper wire upon which are strung beads of glass and steel alternately This tube gives a steady and uniform yield of ozone when the current is passed in the presence of air Tubes are thus constructed for inhalation and for the treatment of suppurating surfaces For the latter a kind of ozone pencil is used so that the action of the issuing ozonised air may be localised air being blown in at one end For the ozonisation of the air of a sick room or a ward a battery of these tubes is enclosed inside a cardboard barrel At one end a fan is placed which may be driven by a motor actuated by the same current The effect of this apparatus when working is very agreeable upon the air of the room giving it all the impression of freshness and removing disagreeable odours or that sense of stuffiness which characterises ill ventilated apartments With convenient forms of apparatus like the foregoing the application of ozone in disease, sickness and for other purposes should be given greater trial than has hitherto been the case The inventor, Mr Lamprey of Brockley, has devoted considerable time and energy to the design of ozone apparatus suitable particularly for the production of ozonised air for sick rooms or for the wards of the hospital He finds that ozonised air is extremely useful as a deodorant of fœtid discharges or evacuations.

“SUGAR-FREE WINES”

LAST week a *correspondent inquired* whether sugar free wines could be obtained and if so where We think the following results taken from the “Analytical Records from THE LANCET Laboratory” of the past few years may afford some generally useful information on this point as to spirits wines, and beers We may add that we have never found champagne, claret, or sherry to be absolutely free from sugar Several specimens examined, however, contained, as will be seen, an almost negligible quantity

	Sugar per cent
Champagne (sans sucre), Hertz and Collingwood 17 Billiter-street E C	0·2
Californian Wines Hague Smith and Co 6 Dickinson-street Manchester —	
Burgundy	0 15
Claret	0 14
Australian Wines P B Burgoyne 6 Dowgate Hill E C —	
Burgundy	0·23
South Australian Wines (Orion Brand) I Barnes Young 35, Walbrook street E C	
Cabernet	0 14
Burgundy	0 16
Riesling	0 20
Dry Imperial Champagne (sans sucre) Moet and Chandon	0·65
Cider Gaymer and Son, Attleborough Norfolk	0 7 to 2 12
Pale Ale, Harvey and Co Pellon Brewery Halifax	None
Anti Diabetic Non-acid Whisky Back and Co Devonshire-square Bishopsgate-street E C	None
Anti Diabetic Whisky J Dewar and Sons 48 Lime street E C	None
Spanish Sauterne P Otaduy and Co 20 High Holborn	0 31
Rioja Red Wine	0 10
Vibrona Champagne Fletcher Fletcher, and Co Holloway N	0 13
Vibrona Sherry	0 20
Fino types of sherry as analysed by THE LANCET Commission on Sherry vide THE LANCET Oct. 29th 1898	0 18 to 0 21
Italian wines F Vitali 5 and 6 Great Winchester-street E C —	
White wine	0 11
Chianti	0 17
Barolo	0 13

THE NEED FOR MALE NURSES —At a meeting of the York Home for Nurses held at York on Feb 13th Mr W Draper made some remarks which are worthy of consideration He was of opinion he said that as far as possible male patients should be nursed by male nurses It was quite true that when men were laid on their backs with sickness they were under “petticoat government” and under existing conditions were glad enough to be so, but without *fear of contradiction* by far the majority of men he thought would much prefer to be nursed by well trained and capable nurses of their own sex Take for instance the sensitive delicate minded elderly gentleman who had of necessity perhaps to be suddenly handed over to the absolute care and dependency of a female nurse of 25 or 27 years Must it not be repulsive to him to say the least? Or take again the nervous bashful youth of from 15 to 20 years Was not the distress of his illness at all events at first much increased in consequence of the necessary offices of his watchful female attendant? Would ladies like to be nursed by men? In the army and navy the nursing was done by medical orderlies or sick bay men and well done *too* *Indeed he did not hesitate to* say that some nursing duties might be better performed by men than by women In these days there should be no difficulty in obtaining the services of plenty of temperate respectable and sufficiently educated young men who would be willing to go through a proper course of training in hospital and then to qualify themselves as efficient male nurses He trusted that the time was not far distant when every nursing institution of importance would have its branch for male nurses

THE LANCET.

LONDON: SATURDAY, FEBRUARY 25, 1899.

THE War Office authorities are, we think, to be heartily congratulated on having decided to establish a system of Army convalescent homes and the *Morning Post* is also to be congratulated on the result of its keen and strenuous advocacy in endeavouring to bring about such a reform. As far as the Army regulations are concerned the soldier has been hitherto regarded as sick or well; he was supposed to be in hospital if sick and to be fit for duty if well. There was no intermediate stage between the two and if sick or disabled soldiers were unlikely to become fit for the discharge of their military duties within a reasonable time they were supposed to be brought before a medical board and invalided. We do not mean to say that these regulations were always strictly carried out or acted upon, nor could they be. Practically speaking arrangements were commonly made for allowing soldiers either to proceed on sick furlough or for giving them light duty on discharge from hospital or during convalescence or sometimes no duty at all until their health was re-established. It was always, of course, within the power of medical officers to make recommendations to that effect which were almost invariably acted upon. Still, the system was not only attended with evils and occasionally disciplinary difficulties, but it was an unsatisfactory and, in a number of cases, very inadequate way of attaining the object in view. It is, indeed, impossible to lay down officially any arbitrary limits in regard to the recovery or otherwise of sick and injured soldiers because these would be so frequently opposed to nature's laws and methods. Everybody—most of all physicians and surgeons who have to deal with sick and injured patients—must recognise that after any long or acute, or even after any ordinary, case of illness recovery does not occur at once: there is almost always an interval during which the patient requires more or less time, together with some outdoor exercise altogether away from and outside the walls of a hospital, before his health is really re-established. In many cases, moreover, a more or less prolonged period of rest, good and careful dieting, and beneficial climatic effects may be absolutely necessary to ensure a patient's recovery. The provision of sanatoria at suitable stations will place these within the soldier's reach and may make all the difference between his return to duty on the one hand and his being invalided and altogether lost to the army on the other. What this loss amounts to in the aggregate we have no means of estimating but that it is large there can be no doubt. A system of sick furlough must obviously often be attended with many hardships and evils both to the sick soldier and to his relatives or friends—to the former from want of proper and skilled care and attention and the exposure to various temptations, and to his friends and relatives, when these are in needy circumstances, as they so frequently are, in subjecting them to a burden which not they, but the State, should be called upon to bear—to say nothing of the injurious effect which it exercises on the popularity of the Army. Many of our large civil hospitals have sanatoria or convalescent homes in connection with them; and so have continental armies. It cannot be too emphatically stated that the nation owes it as a duty to its sick and wounded soldiers to see that they are well cared for. It is nothing less than a national scandal that soldiers suffering from diseases and injuries attributable to their military service and of an intractable and possibly fatal character should not receive all reasonable consideration, instead of being weeded out of the army to swell the mortality-rate of the civil population.

We hail, then, this new policy of the State as regards the Army, in the establishment of convalescent homes for sick and disabled soldiers, as a much-needed reform and a very wise and humane step in the interest of all concerned. The convalescent soldier under the proposed scheme is to be drafted to barracks in stations where the situation and climate may appear most fitted to hasten his recovery. He is to be relieved of military duty and to be afforded facilities for the restoration of his lost health and strength. The experiment will be started in nine or 10 centres, to be selected according to their climatic recommendations, and it is hoped that it may be carried out during the ensuing summer. Barracks at Scarborough have been already utilised for the purpose and similar institutions will be soon started at Sandown, at Shorncliffe, and at Yarmouth. Existing buildings will be employed as far as possible and the other localities contemplated in the War Office scheme are Pembroke Dock, Tynemouth, Fleetwood, Ayr, and Aberdeen. It is to be hoped that as the scheme becomes further developed inland resorts, and some on elevated sites, will be selected, because seaside stations are not invariably the most suitable climates for patients who have suffered from tropical or subtropical diseases.

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IT is gratifying to find that in the United States of America the wholesome dread of undue developments of narrow specialism corresponds closely with the similar feeling which prevails in the United Kingdom. It is somewhat humbling to see the work of the medical profession broken up into bits as though the body were not one and indivisible or as if one portion of it could suffer in a splendid isolation from the rest. The illustrations of this evil are familiar to everyone and are sometimes conspicuous in regions where one would rather expect larger views of duty and disease to obtain. Thus, for instance, we find inspection of the mucous membrane of the larynx without examination of the chest; fanciful or slight diseases of the uterus or ovaries specially and gravely treated without reference to the general constitution of the patient; hæmorrhoids ligatured where malignant disease of the liver is beginning its fatal inroads on life; and all sorts of grave operations performed where there exist clear indications of the presence of fatal general conditions of which the local disease is but the climax To speak generally the tendency is to take a local view when everything depends on a broad and general view of the facts of the case The worst of it is that there is much in this specialisation of medical work which is agreeable to the patient and to the public The patient is gratified to have his disease duly labelled and localised and there is even sometimes satisfaction to him in the notion of having it dealt with surgically Moreover, there is comfort to him in the consideration that according to the specialists theory the disease is confined to one part, that it may possibly admit of simple excision or at any rate be carefully confined to its existing limits and treated by new fangled and merely local remedies The public, too, is taken by this view of specialism It accords strangely with its own crude notions of disease—notions which have been fed by ages of ignorance and quackery It is obvious that the belief of the public in an ever increasing specialisation of disease or rather of therapeutics is one of the strongest reasons for suspecting the truth of the whole doctrine and all the pretensions on which it thrives

We began by saying that the same wholesome dread of specialism which obtains largely in the profession here obtains equally in the best informed sections of the profession in the United States We have before us an address on the Dangers of Specialism in Medicine by Dr J BULKLEY, physician to the New York Skin and Cancer Hospital and consulting physician to the New York Hospital The address was delivered last year before the American Academy of Medicine by Dr BULKLEY in his capacity of President He is himself, it will be seen, a specialist but with a difference The Academy of Medicine over which he presides represents the educated medical opinion of the United States He expresses himself as thankful that owing to his not securing so early as he wished in life an appointment to a skin department he was thus driven to the study of general ailments We are naturally concerned therefore to ascertain his views as to the legitimate place for specialisation in medicine, the dangers which attach to it, and the way in which these dangers may best be averted He freely admits the uses of specialism and, indeed, that it is inevitable since the science and art of medicine in company with other sciences and arts have become so vast and extended that no one mind is capable of fully understanding every portion of it or of practising in every line in the best manner possible But withal he maintains that specialism is often cultivated and practised in a way which brings it and the whole science and art of medicine into discredit He enumerates several causes which contribute to this evil growth A fundamental evil lies in the desire of many young men to find short cuts to success and wealth by blazing out into sudden fame as specialists without any adequate general study of medicine in all its departments They are impressed with the success obtained by a few "ornaments of the profession who after long years of general study and practice have concentrated their mind on certain diseases or sections of practice and attained to eminence They are tempted to take up special work without laying the foundation in deep and general knowledge of medicine Sundry circumstances in the present organisation of the profession favour their vanity Amongst these Dr BULKLEY specifies the excessive m plication of cheap medical periodicals, with such a der for literary material that there is no difficulty in secu publication for all articles "however trashy" The m plication of medical societies is liable to a similar objec and favours the acceptance of papers and discussions likely to advance individual interests than scientific obj Medical colleges too, are apt to multiply special chairs w out having any thoroughly qualified persons to fill them

The remedy suggested by Dr BULKLEY—one in w all who have the interest of the profession at h will concur—is the more complete general education of specialist and the more thorough study of the whole r of medical knowledge as a basis for special practice specialist should grow out of the general practitioner should bring his ethical views of practice into harmony those which for generations have guided the conduc medical men The more a specialist isolates himself claims a right to act independently of the judgment of fellow practitioners the more is he to be regarded distrust by the profession and the public alike profession can best control the growth of the evil fo of specialism by recognising only those specialists wh reputation has developed legitimately They may be hel in their selection by Dr BULKLEY'S words "The specia should be a good physician *plus* the particular knowledg his specialty, or as someone has put it, he should h something of everything and everything of something"

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THE Government as we anticipated, have taken earliest opportunity to introduce their Bill to g facilities for the inter communication of the met politan water companies mains In introducing the Bill Tuesday last Mr CHAPLIN gave an outline of its provisio The metropolitan water companies under the direction of Local Government Board are within a certain time submit schemes for the construction of the works necess to carry out inter communication between their mains and is provided that in the case of an emergency the compan are to supply "at a reasonable cost, and to such extent a during such periods as the Board may direct, such water may be required for the need of any other metropoli water company and as may be available after satisfying t requirements of their own districts"—This provision is new departure in the treatment of the London water co panies Parliament has on previous occasions legislat concerning the charges which may be levied with rega to the sources from which water may be taken and wi regard to details of the supply The legislation has be partly by private Acts each of which as a rule affec one company only, and partly by public Acts which app to the whole of the metropolitan district Up to t present time, however, there has been no legislation givi power to the Local Government Board or to any other bo to interfere between one water company and another W do not see that the metropolitan companies can reasonab object to the Government measure on this point because the Bill which they themselves have already brought similar provisions are made It is not, however, on th account less worthy of remark that in giving the power direct interference between the different companies to the Local Government Board the Government is taking a perfectly new departure in legislative proposals for dealing with water companies.

Mr. CHAPLIN said that his Bill provided that the cost of construction should be borne by the several companies according to their respective water rentals and the terms upon which the water should be supplied were to be settled by agreement or by arbitration. To carry out the necessary work certain statutory impediments which at present exist are to be removed by the Bill. This provision, again, is on exactly the same lines as the Bill promoted by the metropolitan water companies. Mr. CHAPLIN explained further that the Local Government Board would be empowered to fix times within which schemes were to be submitted and the works constructed. With regard to the way in which the money is to be raised to carry out the work Mr. CHAPLIN explained that the Government has adopted the recommendation of Lord LLANDAFF'S Commission. This recommendation is contained in Section 37 of their first report and is as follows:—

"It was contended before us on behalf of the companies that inasmuch as the money raised by issuing the debenture stock could not yield revenue or profit to the companies, the sinking fund clauses, which are founded on the assumption that debenture capital is expended so as to produce revenue and profit, were not applicable. We think that there is force in this contention and that this debenture stock might be exempt from the obligations of the sinking fund clause."

Should this recommendation be adopted in its entirety it will, of course, be of great advantage to the water companies and a corresponding disadvantage to the London ratepayers and water consumers. Mr. CHAPLIN also explained that the Bill contained provisions under which, in case of purchase of the undertakings of the companies at any time within seven years of passing the Act, the companies would not be able to derive any increased allowance for advantages which they might obtain under this Bill.

We defer criticism of the details of the Bill, but we congratulate Mr. CHAPLIN on having so promptly brought forward a measure the principle of which ought in the public interest to be made effective by legislation as speedily as possible.

Annotations.

"Ne quid nimis."

THE SICK AND WOUNDED IN EGYPT.

ON Feb. 16th Mr. Wyndham replied to a question from Captain Norton in the House of Commons dealing with the alleged inadequate provision made in Egypt for the requirements of the sick and wounded returning from the late Nile campaign; and more especially with regard to *the failure of the War Office to comply* with the application of the medical service in June for a hospital ship, which was renewed in the following September by the general officer commanding in Egypt. The reply of the official representative of the War Office was, however, considered to be so unsatisfactory and inadequate that it called forth a communication from Colonel Lonsdale Hale in the *Times* of Feb. 21st, in which the action of the War Office is so adversely criticised and commented upon as to amount to a grave indictment against the Government. A question was again put by Captain Norton in the House of Commons to the Under Secretary for War on *Feb. 21st respecting* the unofficial application for a hospital ship by the general officer commanding and the principal medical officer of the army of occupation in Egypt in June last, and as to the nature and extent of the hospital accommodation and nursing staff provided at Cairo and Alexandria to meet the *necessarily increased* requirements caused by the engagements at Atbara and Omdurman. It appears from the reply of the Under Secretary for War that no steps were taken on the receipt of the intimation in June to fit out a hospital ship and to hold it in readiness to proceed to Egypt in anticipation of the expected renewed application, which came by telegram from the general officer commanding in Egypt *on* Sept. 14th—*too late then to* be acted upon. One thing is certain: no hospital ship was available at Alexandria although the medical regulations expressly provide that one is to be supplied under such circumstances, and no warning, unofficial or otherwise, was consequently necessary. Nevertheless, it was unofficially asked for in June by both the medical service and the general commanding, but no steps, as we now *learn, were taken to comply with their request. We can only* suppose that the explanation has to be sought for in the desire to "run the campaign in Egypt on the cheap" and that the Horse Guards' advisers of the War Office *may probably regard the* provision of a hospital ship for the Nile expeditionary force as a kind of "*fad*" of the medical service. That, *in addition to the* wounded, a large amount of sickness—of enteric fever especially—would follow on the conclusion of the campaign was about as certain as anything can be in war and just what all our previous experience in Egypt had taught us to expect. If the medical service or its authorised regulations had been to blame in this matter we should certainly have heard of it. We quite agree with an observation quoted in Colonel Lonsdale Hale's letter: "If £1000 of the money spent in booming the Sirdar in Egypt had been spent for the sick of the British division between 100 and 200 soldiers would have been alive now instead of lying in cemeteries in Egypt." We question, too, whether tents afford suitable accommodation for cases of sickness during September in a *climate like Egypt. We hoped that* this sort of parsimony had received its death-blow in the Crimea.

THE GOLDSMITHS' COMPANY'S GRANTS IN AID OF SCIENTIFIC RESEARCH.

THE Goldsmiths' Company has done much for scientific research and the thanks of the whole scientific world are due to its members for their generosity. A report has just been issued by the clerk of the Company explaining in a few words the advance which has been made in the laboratories of the Conjoint Board of the Royal Colleges of Physicians of London and Surgeons of England under the grant of £1000 made by the Company in 1894. The results obtained may be summed up thus: 1. Improvements have been made in the method of preparing diphtheria antitoxin which is now produced *more rapidly and of much greater* strength than was formerly possible. The more potent antitoxin is of great value in the treatment of diphtheria. A larger number of antitoxin units can be given in the same quantity of serum and thus there is far less immediate discomfort to the patient and its use is less often followed by rash and pains in the joints. It is much more convenient for transport and injection and, *lastly, larger doses* of antitoxin may be given because it is *contained in* a less quantity of serum. 2. The antitoxin value of serum is *now easily* ascertained and a permanent standard has been reached and kept preserved 3 Some knowledge of the structure of toxins and antitoxins has been acquired and inquiries into the action of the several constituent parts of the substances is still being carried on 4 Large quantities of strong antitoxin (about 13 000 doses) have been distributed to be used in the cases of poor people and hospital patients many of whose lives have thus been saved In consequence of this report the Company has made a further generous grant of £500 to the Conjoint Board Such open minded action cannot be too highly praised and the thanks not only of the medical profession but also of the public generally (although, perhaps, unconsciously given when members of families have recovered from diphtheria after use of the antitoxin) should be accorded to this great historical Company We further congratulate its members on having shown the courage of their opinion in spite of a band of unscrupulous agitators who, heedless of truth and reason, are prosecuting their cause with all the blind impetuosity of ignorance and misplaced sentimentality

INCREASE OF ALCOHOLISM IN FRANCE

DR JACQUET of the Hopital Saint Louis Paris is leading an active campaign in the hope of checking the ever increasing consumption of alcohol in France It appears if we may trust the vigorous denunciations made by Dr Jacquet that our French neighbours whom we have always considered a sober people in comparison with ourselves in reality consume a greater quantity of alcohol than do our countrymen This discrepancy may be explained by the fact that whereas English people drink to excess occasionally Frenchmen take less at a time but they drink more constantly There are fewer drunkards but there is much more alcohol consumed Dr Jacquet however protests that it is a mistake to believe that alcohol taken in small quantities but in frequently repeated doses is not injurious On the contrary these careful, sober people become alcoholic so gradually that they cannot perceive the injury which they have done to themselves till it is too late The man who is never intoxicated but who is constantly consuming small quantities of alcohol is in greater danger than the person who occasionally drinks to excess It is at the Hôpital St Louis that Dr Jacquet has been lecturing on this subject to audiences consisting of medical students trained nurses journalists, and other persons who take a serious interest in social questions That the question of alcoholism is becoming more and more urgent in France cannot be denied Other countries are improving but in France matters are going from bad to worse The consumption of pure alcohol at 100 hydrometer degrees is now equal to 2 000,000 hectolitres, and as the alcohol consumed is on an average at 40 hydrometer degrees this is equal to 5,000 000 hectolitres of ordinary alcohol The consumption of pure alcohol in France was estimated at one and a half litres per head of the population in 1850 In 1896 this average had increased to 4 19 litres But if to this the alcohol consumed in wines beers, and cider is added the average consumption of alcohol at 100 hydrometer degrees is equal to 14 litres per annum for every man woman and child in the country Apparently this figure is not reached by any other country In Belgium the consumption is only equal to 10 50 litres in Germany to 10 litres England comes next on the list and Sweden with only five litres comes last While in France the consumption has increased so also have the facilities for drinking In 1830 there were 280 000 drink shops, cafés, &c, and in 1896 these had increased to about 500 000 There is now one drink shop for every 30 adults of the population In the department of the Eure there is one drink shop for every 11 inhabitants—that is to say, for every three adults But these figures only deal with what is described as official alcoholism, there is a great deal of clandestine alcoholism which escapes the control of public statistics The most wonderful contrast is that set forth between France and Sweden In the latter country the annual consumption of alcohol was equal to 23 litres per head during the years 1830 to 1834, and in those three years 59 murders were committed During the three years from 1875 to 1878 only five litres per head per annum of alcohol was consumed and there were only 18 murders committed Such are some of the facts which Dr Jacquet is striving to impress upon the French public Perhaps, however, he somewhat spoils his case by going to extremes The strength of the French temperance movement is due to its moderation It does not fly in the teeth of the history of humanity It does not deny that pure wine is wholesome and even beneficent, but it insists on the necessity of purity Hence the French temperance advocate wages war against alcohol, especially manufactured alcohols—namely, alcohols which are not distilled from wine—but he allows the consumption of what are now termed hygienic drinks, that is to say, unsophisticated wine, beer, and cider Still even Dr Jacquet does not advocate absolute abstinence He urges that no one need take alcohol and that we gain in vigour and strength by abstaining from alcohol Wine beer and cider stimulate energy but should be taken in strict moderation, and it is, he maintains, absolutely false to say that wine gives strength Dr Jacquet exhibits lantern slide representations of persons suffering from alcoholism and shows specimens of human degeneration due to excess in drink As the general daily papers in Paris are beginning to notice these lectures they should produce a wholesome effect

MEDICAL OFFICERS OF HEALTH AND THEIR POWERS

MEDICAL officers of health rightly possess powers to examine and report upon milk and other food supplies but at the same time they must use the utmost reserve as regards suspicions which they may have concerning certain farms or shops until certain and reliable information has been obtained, otherwise purveyors of milk or other food stuffs may sustain great but unmerited harm A case of this kind was recently tried before Judge Ingham, at the Warwick County Court An action was brought by Mr Geo Cashmore, dairyman, of Leamington, to recover £50 9*s* 10*d* from Dr Samuel Browne, medical officer of health of Leamington, for circulating a certain report to the injury of the plaintiff s business It was alleged that early in June last four cases of typhoid fever occurred in Leamington and by a coincidence the families affected were all supplied with milk by the plaintiff Dr Browne went to the plaintiff s dairy to examine it and took a sample of milk and was overheard to instruct the sanitary inspector to ask Dr Bostock Hill, the public analyst to look out particularly for typhoid germs He did not inform the plaintiff of the result until he was asked and then admitted that no typhoid bacilli had been found Plaintiff then asked him what compensation he was to have for injury to his business and Dr Browne was stated to have replied that he had it in his power to ruin him as he had done in the case of another milkman It was also alleged that Dr Browne had told a gentleman whose daughter was suffering from typhoid fever that the milk was not fit for use and that he must throw it down the drain It was admitted however, that he afterwards informed the same gentleman that he could safely use the milk again and that he might write to the plaintiff to that effect Dr Browne denied that he had exceeded his official duty as a medical officer of health He simply advised the families affected not to use milk until it had been tested.

The plaintiff in angry terms demanded compensation and he referred him to the Health Committee of the Town Council. He then became abusive. Under these circumstances he reminded plaintiff of his powers as a medical officer and told him that under the Act he could prevent him from selling milk and that this would ruin him. The judge said he was bound to say that the defendant had only tried to do his duty as medical officer of health and the claim must therefore be dismissed. At the same time he regretted very much that, however insulting Cashmore might have been, Dr. Browne should to redress a private wrong have threatened him with the penalty which he could have inflicted only by virtue of his office as medical officer of health.

FOOD ADULTERATION.

MR. LONG's reply to a deputation of the Federation of Grocers' Associations last week encourages the hope that the Bill to be brought in by the Government will be both comprehensive and useful. We learn with satisfaction that dairy products are not to be treated separately but that all articles of consumption are to be included in a broad measure on the subject of general adulteration. Mr. Long assured the deputation that in any proposals to Parliament the Government would do nothing calculated to harass the great interests represented by the deputation or interfere with any properly conducted trade. Mr. Long evinced a singularly clear grasp of the position. He maintained that all that the public were entitled to ask for was that the articles should be sold for what they were and not for something else. If it could be shown that the law was not strong enough or wanted improvement in administration the country was entitled to have it. These are exactly the *sentiments which we have expressed again and again in these* columns. It is to be hoped that Parliament will accept a measure which will largely reduce, if not put an end altogether to, adulteration and fraud without hampering legitimate and honest dealing.

A UNIQUE CASE OF PSEUDO-HERMAPHRODITISM.

IN the *Centralblatt für Gynäkologie*, No. 5, 1899, Dr. Franz Neugebauer records a very interesting case of pseudohermaphroditism. The patient was a Jewess, 27 years old, who seven days previously had been confined at full term of a normally developed child. She was a well-developed, red-haired person of feminine appearance. The voice, the distribution of hair, and the breasts were all of the female type, and to outward appearances there was nothing at all suggesting the male sex. On examination of the genitalia the mons Veneris, the vulva, the labia, and the clitoris were normal. Situated about one centimetre behind the frænulum pudendi almost in the middle line of the perineum was an organ some 45 millimetres in length bearing a close resemblance to a penis. It was capable of becoming erect and swollen and of attaining a length of about 50 millimetres. It had all the appearances of a penis with a clearly distinguishable glans, incompletely covered by a prepuce. The skin covering it was wrinkled and folded like that of the penis of an old person, the folds, however, partially disappearing when erection occurred. The long axis was directed upwards, while the extremity was somewhat hooked and bent downwards like that of a hypospadiac penis. The meatus urinarius was represented by a small dimple, no trace of any opening being discernible. *Two corpora cavernosa were apparently felt,* of which the right but not the left could be traced to the ramus of the pubic arch. During erection the organ attained a size of about the thickness of the little finger, and this condition was accompanied by sexual excitement on the part of the patient. Nothing abnormal could be felt by the rectum and the labia majora were empty. A vaginal examination was not made, but there can be little doubt that the uterus and ovaries were present, seeing that the patient had just passed through a normal confinement. It was impossible to determine with certainty whether some of the folds of skin covering the abnormal body, especially at its base, did not represent a rudimentary scrotum. Unfortunately the patient was lost sight of owing to her having taken a situation as a nurse, and the operation for removal of the organ which had been recommended to her was not carried out. The question, therefore, as to whether the structure represented a rudimentary penis or a hypertrophied abnormally sensitive clitoris remained unsettled. Dr. Neugebauer has collected 37 cases of doubling of the external genitalia. Of these 28 had a double penis, three had a double vulva, and six had bisexual duplication; in none of the latter cases, however, has any post-mortem or histological examination been carried out. By most authorities the possibility of the occurrence of bisexual duplication of the external genitalia is denied, and the present case cannot be quoted as any proof of its occurrence seeing that the organ may well represent a hypertrophied clitoris. The case is, however, a unique one of its kind and it is to be regretted that Dr. Neugebauer was unable to carry out a further investigation of the interesting structure, such as might have enabled him to find some explanation of its extraordinary situation.

DEATH UNDER CHLOROFORM.

THE patient, a girl, aged two years, suffered from broncho-pneumonia and right-sided empyema. Although in a bad state there was nothing in her condition at the time of her admission into the Leicester Infirmary to fear immediate danger to life, but she grew worse and her breathing became much laboured. It was therefore determined to remove the pus by operation as aspiration had failed to relieve the condition. Chloroform was given by the assistant house surgeon, to whom we are indebted for the notes of the case. It was given by the "open method," small quantities being poured on lint and "freely diluted with air." The child was lying on her back and was never turned to the sound side, so that pus could not gravitate into and choke the left lung. Full surgical anæsthesia was successfully obtained and the operation was about to be commenced when the child ceased to breathe and died in spite of all restorative measures—artificial respiration, inhalation of oxygen, hypodermic injection of strychnine, and inhalation of nitrite of amyl. The administrator, who claimed an experience of 1000 administrations of anæsthetics, states that the child gave 10 or 12 "voluntary" gasping respirations before she succumbed. The extreme danger and difficulty of giving anæsthetics to patients suffering from empyema is well illustrated by this case. In general we prefer the use of the A.C.E. mixture when there is not too much bronchial irritation. In the present instance the case appears to have been *complicated* by the presence of broncho-pneumonia *so* that possibly the mixture would have failed. If the report which states that "full surgical anæsthesia" was obtained is to be taken literally we should join issue with the wisdom of such a practice as there can be little doubt that the "second degree" of Snow is the safest and is quite sufficiently deep for the proper performance of the operation. There is absolute analgesia and if the patient is restless he is never so much so as to interfere with the surgeon. Again, "artificial respiration" as performed by the Silvester system is a great source of danger to those apparently dead from chloroform when any fluid is in the lungs. Either the system of Marshall Hall *should* be carried out or the bronchus of the sound lung should be catheterised and inflated with care by means of bellows It would be of interest to learn whether any necropsy was performed (we may add parenthetically that in every case of a death under an anæsthetic a careful post mortem examination should be made) and if any pus was found in the bronchi of the left lung

A RUSSIAN SURGEON ON CLEANSING OF THE HANDS

DR CIRIKOW formulates his ideas regarding disinfection of the hands to the following effect in a recent number of *Vratch* 1 Cleansing of the hands by mechanical means Cutting the nails short, clearing the subungual spaces in the usual way, rubbing with a hard brush, green soap, and warm water during 10 minutes, all this does not give a satisfactory result From subungual matter and from the product obtained by scraping the palm and the interdigital regions it is still possible to cultivate colonies of bacteria 2 Placing the hands in a 2½ per cent solution of formol for a period of three minutes will not suffice for disinfection even though the measures just enumerated have been previously adopted 3 Neither a solution of permanganate of potash nor a 1 or 2 per cent solution of corrosive sublimate, whether hot or cold can be relied upon to yield better results than are to be obtained by milder antiseptic methods 4 The hands will beyond all doubt be disinfected if cleansed by mechanical means during three minutes, followed by brushing with a new brush in 95 per cent alcohol during three more When thus treated they will even remain aseptic after steeping in hot water during 12 minutes or after four or five minutes of perspiration Alcohol should never be used under 80 per cent and even at that degree the results are only semi satisfactory 5 Wood spirit at 92 per cent is very cheap and gives excellent results 6 The thread gloves used by Mikulicz have little value The experimenter s hands were first plunged into a liquid containing a little pyocyanic broth He then put on the gloves and after from three to five minutes numerous bacteria were found in the fluid with which they had become impregnated 7 Dr Cirikow is at present engaged in an examination of the gloves which have been proposed by Friedrich

"QUACKS AND ABORTION A CRITICAL AND ANALYTICAL INQUIRY'

A FEW weeks ago in one of our articles published under the heading of ' Quacks and Abortion A Critical and Analytical Inquiry' we predicted that owing to the prosecution of the Chrimes brothers the advertisements to which we called attention in detail would disappear for a time from more or less respectable papers at all events but would probably recur We confess that we did not expect to find them distributed broadcast again even in the more disreputable papers of London and the provinces so soon after the publicity given to the subject by the prosecution referred to and by our articles We have however, before us fully 100 newspapers published during one week of the present month in Great Britain in which occur the advertisements of persons of whose pretensions to procure abortion by means of drugs there can be no question while over 50 of these papers contain the advertisements of quacks with whom we dealt in our articles, publishing their names, their correspondence and the analysis of their wares Strange to relate in one paper, the *Orcadian* published at Kirkwall, we find the well known advertisement of the Chrimes brothers still appearing They are presumably expiating their misdeeds at Wormwood Scrubbs, previously to their removal to penal servitude while miserable women in Kirkwall and its neighbourhood are being incited by their specious promises to send postal orders to H B. Montrose of Ludgate circus where "the highest professional advice always free is promised with the removal of the "most obstinate obstructions' Let us hope that, whatever else the police may do or not do, at any rate they have officially notified to the Post Office the conviction of the Chrimes brothers and that the letters and money are promptly returned to their senders without the form of attempting to deliver them being gone through The Kirkwall editor is to be congratulated on the tranquil life which he lives undisturbed by the news of the outer world if not upon his insight into the character of his advertisements

THE DILATORY CHURCHWARDENS

SOME time ago the crypt of the church of St George-the Martyr, Southwark, was noticed to be full of fragments of burst coffins, bones, and other substances prejudicial to health After a good deal of discussion and perseverance on the part of Dr Waldo, the medical officer of health, a letter was written by the Home Office ordering the crypt to be cleared out The letter was dated August 11th 1898, but nothing more was heard of it until Jan 24th, 1899 when it was discovered in St George s Parish room The chairman of the vestry reported the matter to the vestry upon Feb 7th We see that the estimated cost of clearing out the crypt is £2000 and that a member of the vestry protested against this expenditure He is reported as saying that he did not believe that the clearing out was to be done on sanitary grounds, but that an attempt had been made to get a room added to the church at the expense of the ratepayers The beliefs of vestrymen and members of boards of guardians would, if collected, form a curious chapter in the history of human intellect

REPAIR OF THE RUPTURED UTERUS

IN the *Gazzetta degli Ospedali* of Feb 5th Dr Tullio Pozzan of Vicenza relates a successful case of repair of rupture of the uterus The patient, who lived in the country and was 41 years of age, had had seven natural labours all with head presentations Two years after the last she again became pregnant the confinement being expected in the middle of August, 1898 Pains of no great intensity commenced on the evening of Aug 14th and continued all through the night The membranes broke at 10 A M next day The midwife stated that the dilatation of the os was nearly complete and that she could touch the fontanelles The pains then became frequent and strong but the presenting part did not advance and the symptoms of rupture occurred suddenly Dr Pozzan saw the patient at 4 A M on Aug 16th, about 15 hours after the accident The fœtus could be easily felt in the peritoneal cavity covered only by the extremely thin abdominal walls The os was soft and dilateable, no portion of the fœtus presented The woman having been removed to the General Hospital of Vicenza Dr Pozzan at 7 A M made an incision in the linea alba six inches long from the umbilicus to near the symphysis, whereby he was able easily to remove the fœtus and placenta The laceration of the uterus was in the lower segment of the anterior wall, irregularly transverse in direction extending towards the left and involving the broad ligament, the upper margin was well in sight, but the lower margin was hidden behind the bladder Clots meconium, &c, were wiped up with napkins wrung out of boiling water The lower margin was then brought into view by pushing it up with the finger in the cervix and the muscular layers of the two edges were stitched together with silk The visceral peritoneum was then united with another line of stitches and the abdominal parietes were closed without drainage The operation lasted 50

in the

pounds and was 20 inches in length, the diameters of the head were normal. After the operation the patient's highest recorded temperature was 38·6° C. (101·4° F.). She left her bed on Sept. 1st and was discharged recovered on Sept. 10th —namely 25 days after the operation. Two months subsequently Dr. Pozzan found her to be in excellent health. The uterus had subsided to its normal dimensions but was anteflexed as a result of the cicatrisation anteriorly. He says that Merz in 1894 was able to collect histories of 39 laparotomies after rupture of the uterus; of which 18 were successful. To this number must be added a case which occurred in the practice of Dr. Paolo Rossi of Vicenza in June, 1891. The patient was 40 years of age and had had six normal labours. Rupture of the uterus occurred in the seventh and laparotomy without suturing the uterus was performed at her own home. She was able to leave her bed after 29 days and was then perfectly recovered.

THE INTERNATIONAL CONGRESS OF GYNÆCOLOGY AND OBSTETRICS.

THE third session of the International Congress of Gynæcology and Obstetrics will be held at Amsterdam from August 8th to 12th, 1899. The questions arranged for discussions (at which already several prominent medical men of different nationalities have promised to be present) are as follows: 1. The Surgical Treatment of Fibro-myoma. 2. The Relative Value of Antisepsis and Improved Technic for the Actual Results in Gynæcological Surgery. 3. The Influence of Posture on the Form and Dimensions of the Pelvis. 4. The Indication for Cæsarean Section compared with that for Symphysiotomy, Craniotomy, and Premature Induction of Labour. The official languages are English, French, German, and Italian, and the reports with their translations in the official languages will be sent to all the members a month before the opening of the Congress. As regards private communications preference will be given to those bearing upon the above-mentioned leading questions. Time will also be allowed sufficient for any demonstrations. The subscription for membership is one guinea. Subscription forms and further particulars may be obtained from the honorary secretary for Great Britain and Ireland, Dr. Arthur Giles, 37, Queen Anne-street, London, W.

"EUTHANASIA."

THE letter which we print this week from Mr. W. G. Burnie in reply to one from "Euthanasia," calls to mind a question which from time to time must suggest itself to every medical man. Such cases as our correspondent described occur only too frequently and the doubt as to how far we are justified in pushing anodynes and anæsthetics naturally causes us considerable anxiety. In reply to his queries we believe, however, it would have been perfectly justifiable for him to have used morphia hypodermically and patients are frequently kept under chloroform cautiously administered for hours to mitigate the sufferings caused by convulsions—e.g., those of tetanus. Medical men must frequently ask themselves whether it would not be more humane in certain cases to purposely administer an overdose of morphia or of an anæsthetic. We refer, of course, to those patients suffering from a malady which is perfectly incurable, which will undoubtedly cause death within a very short period, and in which as long as the patient survives intense agony will be experienced. No one can deny "that it would be the kindest thing to do," but the physician's duty is to attempt to save life, never to destroy it. It is wonderful how much pain can be relieved without danger to life by the suitable administration of anodynes, and we consider that a practitioner is perfectly justified in pushing such treatment to an extreme degree, if that is the only way of affording freedom from acute suffering. With morphia, in the majority of cases, there is but little risk; in cases of extreme cardiac weakness it may certainly be given; the only doubtful cases are those in which there is advanced renal disease, and then it is for the physician to decide which is likely to be of more harm to the patient, the prolonged agony or the morphia; or whether the administration of some other anodyne should be tried, and if that fails then whether chloroform inhalation should be given. If the risks be explained to the friends we are of opinion that even should death result the medical man has done the best he can for his patient. But this is a very different matter from purposely giving a larger dose than is necessary. The various suggestions which have been made as to consultations for discussing the question of painlessly shortening the existence of a fellow-being are hardly to be taken seriously. If such a mode of treatment were suggested it would be so open to abuse by the unscrupulous persons who are unfortunately to be found in every rank of life that the medical profession would never countenance it.

PETROLEUM LEGISLATION.

WE are evidently a long way from obtaining a definite pronouncement from the Government on the vexed question of altering by statute the flash-point of petroleum oil. Mr. Jesse Collings stated to a deputation last week that the matter was receiving close and serious consideration. The members of the deputation who spoke and who represented the Federation of Grocers' Associations urged that legislation should be directed to the construction of the lamp rather than to the adoption of a much higher minimum flash-point of the oil. One remarkable statement was worthy of note. A gentleman stated that "the vendors who provided oil for the 10,000,000 lamps in use every night and day in Great Britain wish to enlist the sympathy of the department in opposing any legislation which suggested the raising of the flash point, the evidence before the committee being entirely in favour of no alteration." The subject of future legislation in this matter is beset with peculiar and great difficulty and it is a pity that this difficulty is not diminished by the sensational statements as to lamp accidents which appear so frequently in the daily press.

THE COLOUR OF PRIMITIVE MAN.

IN the February issue of *Knowledge* Professor Arthur Thomson writes the first instalment of what promises to be a series of very interesting articles on the Treatment and Utilisation of Anthropological Data. The first article deals with the question of colour—a question which has attracted considerable attention in the fields of physical anthropology. Whilst on the one hand it has been maintained that primitive man was fair in complexion, on the other hand it has been maintained that he was of a dark tint. "It is not necessary for us," says Professor Thomson, "to accept the extreme position. ...... A middle course is open as suggested by Dr. A. R. Wallace who advances the view that primitive man was probably of a Mongoloid stock and that his subsequent modification into white and brown and black varieties was due to his migrations into geographical areas where he was subject to the influence of varied conditions of climates." The writer, however, does not commit himself to the acceptance of such opinion but remarking that the theory is suggestive draws attention to associated details of importance in studying the question. Among them

> "Temperature may be mentioned, diurnal as well as nocturnal. The moisture of the atmosphere. The nature of the soil. The diet. The manner of life, whether dwellers in dense forest or jungle—where, for example, the natives are screened from the sun's rays, or dwellers on the hills and

plains where they are most exposed to light and alternations of temperature. ...... Freckles, which, curiously enough, occur most frequently on those with hair of a pronounced red colour, do not differ in any respect from the pigmented skins of the darker races except in regard to their colour and their circumscribed appearance. In persons of dark complexion there is, in addition to the red, brown, and yellow pigments, probably a very slight admixture of the black pigment. This may be present in sufficient quantity to impart a blackness in the hair but not abundant enough to destroy the fairness of the skin, though in exceptional situations its presence may be very evident." It is curious to note that "when the skin of a white man is grafted on to a negro the grafted patch assumes the normal tint of the individual, and, *vice versa*, when black skin is grafted on to white the pigment disappears"

The article, which is illustrated with photo-micrographs, deserves careful perusal.

THE LATE PROFESSOR KANTHACK.

WE publish in another column a letter dealing with the question of a memorial to the late Professor Kanthack. The form of the proposed memorial is, we think, very admirable, for it is intended to provide for the widow of the deceased during her lifetime and after her death to apply the capital sum to some permanent memorial of him who was one of our most brilliant pathologists. All who knew him should subscribe according to their ability. He was known to many personally, to more perhaps by his work, and there should be no difficulty in collecting an adequate sum for the objects set forth in our correspondence columns.

THE ARTHRITIS OF CEREBRO-SPINAL MENINGITIS.

DR. OSLER has contributed an important paper to the *Boston Medical and Surgical Journal* of Dec. 29th, 1898, on this subject. Arthritis is a very inconstant symptom. An old writer, North, in his valuable "Treatise on a Malignant Epidemic commonly called Spotted Fever" (New York, 1811) mentions "swelling like rheumatism of the joints." In the recent outbreak in Boston arthritis occurred in six out 111 cases. Dr. Osler relates two cases. In one the onset was abrupt and accompanied by chill. There were marked fever, stiffness of the neck, splenic enlargement, delirium, and unconsciousness from which the patient could not be roused. The arthritis was the most prominent symptom. The right wrist, the elbows, and knees were red and swollen. The condition of the joints suggested pyæmia, but the deep coma and rigidity of the neck cerebro-spinal fever. There was consolidation of the lower part of the right lung which appeared to be pneumonic, but while meningeal symptoms in ordinary pneumonia are not uncommon they are rarely associated with stiffness of the neck, and arthritis is excessively rare. Lumbar puncture gave a turbid fluid containing lymph and the diplococcus intracellularis. Half an ounce of pus obtained from the right knee showed the diplococcus and the blood also contained it. This is the first case in which during life the organism has been isolated from the blood and joints. The necropsy revealed purulent cerebro-spinal meningitis. In the second case the illness began with pain and redness and swelling of the right ankle, then the left ankle and right hip were affected. The diagnosis was doubtful, but typhoid fever was suspected. Pain in the back on the sixth day and retraction of the neck (without rigidity) on the seventh day aroused suspicion. The joint symptoms subsided completely. On the twelfth day the legs were limp and paraplegic and there was anæsthesia as high as the umbilicus surmounted by a band of hyperæsthesia. There were no reflexes to be obtained from the legs. Lumbar puncture gave exit to two drachms of pus containing suspicious looking diplococci. The lower part of the cord was exposed and thick pus was drained away. A small catheter was passed under the dura mater and the membranes were irrigated with normal saline solution. Much pus escaped. The patient was improved in health at the time of the report. The infectious arthritides while common in some fevers are very rare in others. The general view has been that the arthritis of cerebro spinal fever is a secondary effect of the meningitis; the separation of the organism from the blood and joints in the first case shows that it may be the direct effect of a widespread diplococcus septicæmia.

THE MILROY LECTURES: AN INTERESTING EXHIBIT.

AT the close of his first lecture Dr. Poore exhibited an interesting series of rabbits which had been buried in wire cages for a year at different depths and under different conditions. The results of these experiments will be dealt with in an appendix. The specimens will be again shown at the close of the lectures on Tuesday and Thursday next to anyone interested in the subject.

PRIVATE MUNIFICENCE AND MEDICAL RESEARCH.

IT will be remembered that some little time ago Mr. Balfour made an eloquent appeal for the richer endowment of medical research. In commenting on the speech of Mr. Balfour[1] we remarked that we hoped it was a foreshadowing of a Government grant in aid of such research. Our hope has so far not been realised and so private generosity has come forward. We learn that Sir Frederick Wills has forwarded to the treasurer of Guy's Hospital a cheque for £5000 to be used for the benefit of the medical school. It is perhaps only fitting that an institution founded by private charity should continue to benefit by the munificence of a private benefactor, but we think it quite time for the State, which has in the past (and very probably will in the near future repeat its action) laid rude hands upon the moneys of pious founders, to do something for the carrying on of that research upon the results of which the health and happiness not only of the living but of those yet unborn may depend. However this may be medicine and science can and do unite in offering very hearty thanks to Sir Frederick Wills

"TIGER NUTS."

A NOT infrequent and very troublesome form of rectal obstruction in children arises from the practice of eating what are known as "tiger nuts." These nuts are of a somewhat flattened conical shape, from a quarter to half an inch long and inclosed in a dry, brown, inseparable skin marked with transverse ridges. Being small they are apt to be taken in considerable quantity and being hard they are commonly swallowed in a crushed but unmasticated state. The natural result as it is revealed to the practitioner who is called in a few days after this injurious repast is a peculiarly painful impaction of the rectum. The finger passed within the anus finds itself in what feels like a mass of small coal. Defecation is a misery. Enemata are at the outset of treatment nearly useless. The finger and the spoon are equally painful and inadequate, and the only effectual method of evacuation with which we are acquainted is to administer chloroform and carefully unload the rectum with an ordinary ovum forceps. This process ought to be followed up by bland disinfectant enemata used alternately with others of olive or linseed oil. Sometimes the removal of the nut-fragments is followed by a species of mucous diarrhœa which is unpleasantly suggestive of the mischief which they are capable of causing in th

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reason why a multitude of irritant foreign bodies should always pass in safety to the alimentary terminus. Another question related to this subject is that of responsibility for the cause of the illness. The case is emphatically one for prevention and this duty cannot safely be evaded by parents, teachers, and any others who are entrusted with the care of children. We are also of opinion that a caution should be issued by the sanitary authorities to keepers of sweet-shops and to corn-merchants condemning the sale of these mischievous nuts as human food.

THE MECHANISM OF ELECTRO-THERAPEUTICS.

OUR Rome correspondent writes: "On May 4th Como will celebrate the hundredth anniversary of the day on which her great citizen Volta invented the pile which goes by his name. The occasion will be utilised for the holding of an International Exhibition of Electricity, the success of which the Government is coöperating with the city and province to ensure. Several of the Ministers (those of Public Instruction, Public Works, Commerce, and Agriculture as well as of the Home Department) have announced their intention not only of being present but of awarding medals to those of the exhibitors who have been most successful in contributing to the practical uses of electricity. A section will be devoted to its various medical applications—a field in which Italy has a highly honourable record. The catalogue alone, with its descriptive letterpress, will in this department have much to interest the medical profession, while the electro-therapeutic appliances in which the latest developments are to be represented will furnish a series of object-lessons from which the intelligent visitor cannot fail to profit. The season, moreover, the 'tempo Maggese,' is that at which the lake and its surrounding scenery are at their best, and those of your readers who contemplate a holiday at that time or who may be lingering in the Italian lake-country on their return from the winter cities farther south might do worse than give a few days to Como and its celebration of the 'Centenario di Volta.'"

THE LIVERPOOL LOCK HOSPITAL.

THERE is probably no disease which is so widely spread or so far-reaching in its effects as syphilis and those who are most acquainted with its ravages are those who feel most earnestly the importance of treating it energetically, for every case which occurs is a menace to the health of the community in which it exists. Cases of syphilis and of the other venereal diseases are treated in the out-patient department of most of the general hospitals, but at the present time in the London general hospitals there are only 57 beds available for female patients suffering from venereal disease—a number utterly inadequate for the satisfactory treatment of these serious diseases. There are only six lock hospitals in the British Isles and an attempt is being made to close one of the most useful of these hospitals. Mr. F. W. Lowndes has shown in the January number of the *Liverpool Medico-Chirurgical Journal* how valuable lock hospitals and lock wards are in the treatment of venereal affections and how the patients are in numerous cases benefited morally as well as physically. He describes all the lock hospitals in Great Britain and Ireland, and especially the Liverpool Lock Hospital, with which he has been associated for 23 years. All lock hospitals have great difficulty in obtaining pecuniary support and this fact must tend to curtail their operations. The Liverpool Lock Hospital is under the committee of the Royal Infirmary, but the great additional expense is not counterbalanced by an additional increase of income and therefore it has been proposed to close the hospital. This would be a most regrettable step, for the benefit of in-patient treatment in the severer cases of venereal disease cannot be gainsaid, and although it is true that the majority of those treated are suffering from the consequences of their own vicious conduct, yet the patients include many married women and children who are afflicted from these diseases through no fault of their own; and, moreover, the fact that the patient suffers from any disease because of his or her own misconduct can never justify a refusal of treatment, for there is no law of proportion between the degree of immorality and the severity of the disease. We earnestly hope that the committee of the Liverpool Royal Infirmary will see their way to continue and even to extend the benefits afforded by the Liverpool Lock Hospital.

SANITATION AND THE DEATH-RATE.

WE quote the following extract from the report of the Chicago Department of Health for 1898. From a scientific point of view such comparisons are useful, but they also serve the important object of educating the public in the results of medical science as applied to public health.

"During the Victorian jubilee, 1897, one of the addresses presented was on the subject of sanitary improvements during the preceding 60 years and their effect on the saving of life. The speaker—the Lord Mayor of London—cited Macaulay's comparison between the London mortality of 1844 and that of 1684 which showed that the death-rate of the latter year, "not a sickly one," was between 43 and 44 per 1000, or one in every 23. He then went on to show that in 1897 the London death-rate was 14·9 per 1000, despite the enormous increase in the population. During the 10 years from 1838 to 1847 the mean annual death-rate for England and Wales was 22·16 per 1000, while that of the 10 years from 1881 to 1890 was 19·1 per 1000. 'This implies that 77,000 out of an estimated population of 29,000,000 were kept alive in each year of the latter period who would have died in each year of the former,' and this saving of life is attributed to sanitary improvements during the period. Here in Chicago there may be shown a still more remarkable saving of life. Thus during *the decade 1845–54 the annual* death-rate was 43·3 per 1000; during the decade just closed (1889–98) the annual death-rate has been 16·3 per 1000, and during the last five years of this decade the death-rate has been 14·4 per 1000, or a fraction less than the London death-rate of 1897. This implies that upwards of 46,500 out of an average annual population of 1,611,235 were kept alive in each year of the last five years who would have died in each year of the period between 1845 and 1854. These figures are further sustained by a study of the ages at death of 10,208 who died in 1872 (the records prior to 1872 were destroyed in the Great Fire), of 12,141 who died in 1882, of 27,259 who died in 1892, and of 11,655 who died during the first six months of 1898. The average age at death in 1872 was 15 years and two months; in 1882 it was 19 years and six months; in 1892 it was 23 years and four months; and for the first six months of 1898 it was 29 years and seven months. This implies an increasing duration of life in Chicago of nearly 50 per cent. during the last quarter of a century."

MEDICAL GLEANINGS FROM ROMAN EGYPT.

IT is probable that no archæological literary discovery of the expiring century will in future be so celebrated as the rescue from the sands of the Egyptian Fayoum of more than 10,000 complete and fragmentary papyri by the explorers acting under the auspices of the "Græco-Roman Branch of the Egyptian Exploration Fund," a society which at its commencement owed much to the late Sir Erasmus Wilson. A selection from some 1400 documents, the greater part of which are at Oxford and the minority at the Ghizeh Museum, has been made by Messrs. Grenfell and Hunt who have carefully edited about 150 of them and published them with a commentary in a volume entitled "The Oxyrhynchus Papyri; Part I., with Eight Facsimile Plates." First in importance is the now famous portion of a "Logia" or collection of "Sayings of Our Lord." There are also pieces by Sappho, Thucydides, Plato, and other classical writers The first papyrus of medical interest is No. 39, which is from the military archives of Oxyrhynchus, and is the certificate for the release from army service of one Tryphon because of defective eyesight It reads thus "Copy of release, dated and signed in the twelfth year of Tiberius Claudius Cæsar Release from service was granted by G Vergilius Capito, prefect of Upper and Lower Egypt, to Tryphon son of Dionysius, weaver, suffering from cataract and shortness of sight, of the metropolis of Oxyrhynchus Examination was made at Alexandria' Another papyrus gives an account of a lawsuit relative to the identity and the custody of an infant who had been placed with a baby farmer, Papyrus No 51 is the report of a medical officer upon a case of suicide and is dated A D 173 A similar document is to be found in the large collection of Greek papyri in the Berlin Museum The present one is as follows "To Claudianus, strategus, from Dionysius, son of Apollodorus, son of Dionysius of Oxyrhynchus, public physician I was to day instructed by you through Heraclides, your assistant, to inspect the body of a man who had been found hanged, named Hierax, and to report to you my opinion upon it I therefore inspected the body in the presence of Heraclides at the house of Epagathus in the Broad street quarter and found it hanged by a noose, which fact I accordingly report'

THE trustees of the Reid Trust for the Education of Women have decided to offer a scholarship at the London School of Medicine for Women in memory of their co trustee, Miss Bostock of Penmaen, Glamorganshire lately deceased The value of the scholarship will be £60 a year, tenable for from two to four years, and will be awarded on the result of the preliminary scientific examination of the University of London The Bostock scholar must read for the London medical degree Further particulars may be obtained from the honorary secretary of the Reid Trust, Bedford College York place W

THE Royal Agricultural Society of England, with the object directly of assisting dairy farmers in meeting the present requirements of sanitary authorities and indirectly of preventing the spread of tuberculosis through dairy products, has issued a small leaflet full of wise suggestions to all whom it may concern Copies of this leaflet may be obtained free of charge on application to the secretary of the society at 13, Hanover square, London, W.

WE regret to announce the death of Dr Arkle from pneumonia after only three days illness Deceased had just resigned the vice deanship at Charing Cross Hospital Medical School where also he was Lecturer on Biology and Joint Lecturer on Practical Medicine

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THE explanatory memorandum of the Army Estimates has been issued There is an increase of £10 000 for the medical establishment, coinciding with provision for 18 additional officers and 150 men for the Royal Army Medical Corps

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SIR JOHN STIRLING MAXWELL, BART, M P, has consented to preside at a festival dinner in aid of the funds of University College Hospital to be held at the Whitehall Rooms Hôtel Métropole on Thursday, June 15th

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DR J M ROSS until now medical officer of the county of Dumfries, has been appointed county medical officer of health for Wiltshire,

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE fifty second sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Feb 14th. The Chairman (Lord Llandaff) and all the other Commissioners were present The witnesses examined were Mr Frank Henry Wybroo, Mr Mather Wilson Hervey, respectively secretary and chief engineer to the West Middlesex Waterworks Company, and Mr Frederick Tendron, chairman of the Grand Junction Waterworks Company

A number of statements were put in referring to the works of the West Middlesex Company These included a description of the engines and of the pumps, a table showing the freehold and leasehold land used by the company, and statistics extending in some cases as far back as 1851 referring to the amount of water supplied, to the population, and to the number of houses supplied Constant supply was first given to 326 houses in the year 1873 This number amounted to 0 7 of the entire percentage of houses supplied At the end of last year the number of houses under constant supply numbered 74,692—89 5 of the total number of supplies given The daily amount of water supplied per head has increased somewhat irregularly In the year 1852 it amounted to 27 5 gallons per head daily; in 1862 to 30 7, in 1872 it was rather less—28 9, in 1882, 25 4, in 1892, 31 1 In the year 1898 it was 34 9 The tables put in give full details with regard to the pumping capacity and to the length of the mains An estimate was given of the future capital expenditure of the company—that is the amount which it was supposed will have to be spent in order to carry on the undertakings up to the year 1937 Tables were also given showing the gross and net profits and other financial details

Mr WYBROO in answer to the CHAIRMAN explained that the net profits fell in the year 1895 because of the expenditure which it was necessary to make as a result of the effects of the frost There was a diminution in the net profits in the year 1894 which was due to a "rebate to the water consumers Discussion arose as to the meaning of the word 'rebate" and as to the propriety of its use

In answer to Mr MELLOR the witness said that every consumer in the company's district had his water rents reduced This was a statutory reduction because the company were able to pay their shareholders 10 per cent

Mr BALFOUR BROWNE preferred the expression "reduction of charges

Mr PEMBER thought 'rebate a good word

In answer to Mr MELLOR the witness said that a rebate of five per cent was allowed upon all water rents from Midsummer, 1887 It was not allowed before that time because back dividends had not been paid

In answer to the CHAIRMAN the witness said that it was not true that the poorer classes paid more than the richer in the districts supplied by the West Middlesex Company. On the contrary, the poor paid less than the rich

The CHAIRMAN said that Mr Gomme of the London County Council had pointed out that the expenditure of the company went up considerably after the year 1887—that is to say, as soon as the company had paid its back dividends and could therefore divide amongst themselves only 10 per cent by way of dividend The witness said that the annual amounts put down for maintenance in the tables which had been put in were correct The expenditure for the years 1886 and 1887 was due to the fact that a greater amount was spent on filter beds Money was spent at that time because it was necessary, the work was not done before because it was not required In the years 1887 and 1888 new filter beds were constructed at a cost of £21,000 The payment of that sum was spread over two years

In answer to Mr. DE BOCK PORTER the witness said that between the years 1878 and 1887 there was no exceptional expenditure

In answer to the CHAIRMAN the witness said that there were no new works during those years and the extra works which were done were paid for out of revenue

The CHAIRMAN examined the witness with regard to the revision of the capital of the company which took place in the year 1852 The company claimed that at that time their capital amounted to £830,000

The Chairman asked how it was that Parliament lopped off the difference between £506,697 and £830,000. The witness explained that although some of the capital of the company was raised at par and the shares were fully paid up some other capital was raised at no less than 70 per cent. discount. At one time the authorised capital was £400,000, but to get £400,000 the company issued 8300 pound shares for which they only got £396,000. Parliament allowed them to fix as their capital the actual amount of money which had been received for the shares.

Mr. Pember read extracts from the Act of 1852 which he remarked "put it as clean as a whistle." He also inserted interpolations of his own and the Chairman remarked that when counsel interposed observations of his own in reading the text for the first time it was extremely difficult to follow. Briefly the fact is that the amount allowed by Parliament was the sum which had been actually subscribed by the shareholders plus the amount which they had spent in the works and part of which was paid out of their dividends. (During the early struggles of this and other companies the adventurers instead of paying a dividend often used their profits for the maintenance or extension of their works. See history of the Lambeth Company, The Lancet, March 13th, 1897, p. 757.)

In answer to the Chairman the witness said that the Vestry of Paddington had applied to a magistrate in the year 1823 to fix the charge for water supplied for municipal purposes. At that time the price charged by the company was 9*d.* per 1000 gallons but the magistrate altered the rate *to 8½d.*

In answer to Sir John Dorington the witness said that he could not tell on what grounds a magistrate in such a case gave his decision.

Mr. Claude Baggallay said that he had had to argue a case just before Christmas and that he was unable to say what the guiding principle in the decision was.

Mr. Pember suggested that the magistrate acted as an arbitrator and not as a lawyer, but Mr. Baggallay said that the magistrate gave *reasons* for his decision, but that it was very difficult to apprehend them and he could not attempt to explain them. Mr. Lewis asked whether the decision of one magistrate was respected by another magistrate. Mr. Baggallay said that he was unable to answer that question.

With regard to the effect of the decision of the House of Lords in the case of Dobbs *versus* the Grand Junction Company the witness said that the company revised their charges after this decision. In some cases the charges were lowered, in some cases they were raised. In a great many cases the company was charging on a sum less than the rateable value of the property. The result of the revision of the water rents of the company was favourable to the company.

The Chairman suggested that they were obliged to reduce some of their rates but screwed up all the others, but the witness pointed out that they had not raised them as much as they had a right to do for it happened that when Torrens's Act was passed and rateable value was made the standard on which water rents were charged there was another revision which resulted in a further increase to their revenue. The decision of the action in the case of Dobbs and the Act of Torrens were both favourable to the revenues of the West Middlesex Company.

With regard to the question of meters the witness said that the *cost of supplying meters* to the whole of London would amount to about £1,500,000 and the cost of *fixing* them would amount to £1,000,000 more if they were placed outside the houses. If they were placed inside the houses the cost would be less but special legislation would be necessary. It would also be necessary that a scale of charges should be fixed to produce incomes equal to the present ones received by the companies and in addition a meter rent would have to be charged.

The Chairman thought that there was nothing absolutely sacred about the present net income of the companies, but Mr. Pember expressed the hope that the 10 per cent. was in the canon.

Mr. Balfour Browne referred in some detail to clauses relating to the fixation of the capital of the company in the year 1852 and pointed out that the words of the Act were that capital should be taken as £506,300 divided into 8300 shares of £61 *each* and that the nominal value of the existing shares of the company was to be reduced from £100 to £61 *each.*

Mr. Hervey, in answer to the Chairman, *explained* the tables which had been put in with regard to the statistics of the expected increase in the population supplied by the West Middlesex Company. He said that according to Lord Balfour's estimate the company would in the year 1937 require 10,000,000 gallons a day more than at present. This water they hoped to get from the Thames and the cost of doing so and of making the alterations requisite for its distribution would, he thought, amount to £1,250,000. They would require a new covered reservoir which would cost about £50,000, new filter beds costing £150,000, new mains costing £300,000, and engines, boilers, and buildings amounting to £200,000.

The Chairman referred to a proposal which had been made to divide the undertakings between the county of London and the county of Middlesex so that each of these districts might have an independent supply. The witness replied that that would be a very difficult thing to do and would entail a large expense the amount of which it would not be easy to estimate. Several of the reservoirs belonging to the company which are situated within the county of London supply districts outside the county of London; and, again, reservoirs situated outside the county of *London* supply districts inside that county. All the mains are laid down so as to give a supply most conveniently under the existing conditions; if those conditions were altered it would necessitate a double series of mains in a very large number of places. The arrangements for the purification of the water are situated in the county of Surrey; all the water passes to *Hammersmith whence it is pumped to the districts supplied.* Roughly speaking, about a quarter of the water is supplied in the county of Middlesex and the other three-quarters in the county of London. If a complete severance of the arrangements for the purification and distribution of the water were made the subsidence reservoirs would have to be divided. At present the water passes to the pumping stations at Hammersmith in a common tunnel and a *fresh* tunnel would have to be made. The pumping station at Hampton is in the county of Surrey; if a complete severance of the supplies were made there would be a difficulty *as to the* mains from Hampton to Barnes. *Filter-beds* would *also* have to be separated and divided between the county of Middlesex and the county of London. The whole of the distributing mains would have *to be* remodelled *so as to* pump direct to the county of Middlesex without interfering with the mains supplying the county of London.

In answer to Major-General Scott the witness said that it would be extremely difficult to divide the filter-beds and the engines between two authorities assuming that the severance took place on the lines suggested by Sir Alexander Binnie. At the present time the filtered water is collected *into one* shaft from which it is passed through a tunnel under the Thames to Hammersmith.

The Chairman questioned the witness as *to the* experience he had had with regard to the deposit of *mud* in the reservoirs. The witness said that 18 months ago they had cleaned out a reservoir for the first time for a period of 30 years. This reservoir which was *situated at Barnes* received water pumped directly from the river. The accumulation of 30 years amounted to an average *of 8·42 of* liquid mud; of this a large proportion, certainly 50 per cent., was water.

In answer to the Chairman the witness said that in flood time the water was much more foul and contained more solid matter in suspension than when the river was *not in flood.*

In answer to Mr. Mellor the witness said that in the year 1866 they cleaned out *four acres* of filter beds which had been constructed in the year 1852. The interior of the beds contained a certain amount of *coloured* matter but it was found that practically the *whole of* the *matter* in suspension in the water had been arrested at or *near* the surface of the bed. During the process of *filtration a film is formed* on the surface of the filter. This *film* is visible to the naked eye and does not require a microscope *or any* other scientific apparatus to detect it. During the *summer* time when the water is good the film *on a* filter *bed* which has been at work for a couple of months does *not* amount to more than the eighth of an inch in thickness. In the winter when the water contains more suspended *matter the film* is formed more quickly but it has the same appearance.

In answer to Major-General Scott the witness said that before the reservoirs were made at Barn *Elms* the company had to deal with water which was more or less *muddy.* This was passed through subsidence reservoirs before filtration.

When the water was more or less muddy it was found that after filtration the colour was not so good as the filtrate of water which was not originally muddy. Flood water was always coloured and the colour could not be eliminated.

Major-General SCOTT suggested that the quality was not as good when they had to deal with flood water as when they had to deal with water in its best condition. The witness admitted that he did not see how it could be so good because the river water at its best was practically chalk water. Under the Staines Reservoirs Scheme water derived from that source would be treated by subsidence before it was filtered. The arrangements of the company were such that it could not possibly be used otherwise. The witness thought that it was desirable that flood water should always pass through subsiding reservoirs. If the water were not allowed to subside a larger number of filters would be necessary.

In answer to Mr. MELLOR the witness said that the first sign of the choking of a filter was that the water passed through the sand less rapidly; therefore if the water were allowed still to flow on to the filter bed at the same rate the level of the water on the bed would rise. A filter-bed may remain in an efficient condition without becoming choked for a week, a month, or two months, according to the quality of the water filtered. It was the duty of a man to watch the filter night and day.

In answer to the CHAIRMAN the witness said that in the case of flood water the water after filtration was always more coloured in the winter than in the summer time. The difference could be detected in an ordinary bath.

SIR GEORGE BRUCE said: "If you notice it in a bath you would not notice it in a tumbler."

In answer to Mr. MELLOR the witness said that the coloured water did not necessarily imply that the water was of a bad quality and he gave the Glasgow water as an instance.

Mr. PEMBER suggested that it was very like the difference between diamonds of different water. It made a great difference to the value per carat, but nobody but an expert would know it and Mr. BALFOUR BROWNE agreed that the value was very much affected.

In answer to Major-General SCOTT the witness said that he did not attach much importance to the possession of a recording apparatus to show the rate of filtration. He was aware that such arrangements were in general use in Berlin, but the manner in which water was to flow on to the filter bed must be controlled by the individual in charge and the only use of the arrangement was that it gave a record of what was actually being done

In answer to Mr. MELLOR the witness said that there was not the least objection to the apparatus.

Mr. FREDERICK TENDRON said that he had been chairman of the Grand Junction Waterworks Company for two years. He did not think that the people of London would gain by buying the water companies' undertakings at any rate for the present. With regard to the company in which he was concerned he would say, Leave the undertakings in the hands of the company and they will obtain their 10 per cent. maximum and possibly also their back dividends sooner than any public body purchasing the undertakings could arrive at the same financial point, therefore the consumer would benefit more rapidly if things were left as they are than if the company were transferred to a purchaser.

The fifty-third sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Feb. 20th. The Chairman (Lord Llandaff) and all the other Commissioners were present. The sitting was occupied in hearing the evidence of Mr. Frederick Tendron and Mr. Harry Wilkins (secretary to the Lambeth Waterworks Company). A large number of documents were put in during the sitting. The appendix to the shorthand notes which contains these consists of no less than 60 pages Amongst these papers there is a statement with regard to the present condition of the Grand Junction Waterworks Company and a number of tables giving particulars with regard to the Stock Exchange value of the stocks of the company at different periods and as to various financial and other details. There is a statement containing particulars with regard to the estimated future capital expenditure which will be necessary and statements with regard to the statutory limits of the supply of the company. These tables cannot be reproduced in THE LANCET

Mr. TENDRON at the beginning of the sitting made a correction with regard to some evidence which he had given concerning back dividends and the examination which immediately followed had reference to the increase of population which would probably take place within the Grand Junction Company's area of supply. The witness said that, taking 22·3 per cent. as the decennial increase of the population within the company's area, in the year 1937 the population would amount to 920,800 and he proceeded to give an estimate of the amount which, in his opinion, it would be necessary for the company to expend in order to supply this population with an average quantity of 35 gallons per head per day and in providing that a quantity of 42·7 gallons per head daily should be supplied occasionally. The witness estimated that the amount which the company would have to spend would only be £1,063,420, but this was on the assumption that they would be allowed to obtain water from the Thames and that the flow of the river should, if necessary, be reduced to 100,000,000 gallons per day.

Mr. HARRY WILKINS stated that the company which he served did not wish to sell their business and that he was present at the interview which took place between Sir Arthur Arnold on behalf of the London County Council and various representatives of the metropolitan water companies. It may be remembered that Sir Arthur Arnold at the nineteenth and twentieth sittings of the Commission gave his impressions as to the result of this interview which were to the effect that the representatives of the water companies would be willing to sell their businesses. The witness said that on behalf of the Lambeth Company he did not at that interview either agree that the company would be willing to sell their undertaking nor did he give his assent to any particular terms on which purchase might be effected. At the present time the company do not assent to the arbitration clauses suggested by the London County Council. Mr. Banbury's scheme[1] would, in his opinion, require considerable modification before it could be accepted by the water companies.

In answer to Mr. DE BOCK PORTER the witness said that he could not say how long it would be before the company would be likely to reduce their water rents. The witness thought that the companies ought not to be prevented from pumping dry the wells which belonged to other people, and practically he gave it as his opinion that the companies ought not to be placed under any rigid control with regard to their arrangements as to their future supplies. He gave it as his opinion that the provisions of the sinking fund clause were atrocious.

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[1] Mr Banbury's scheme for the purchase of the Metropolitan Water Company's undertakings was given on the thirtieth sitting of the Royal Commission, which was held on July 18th, 1898. (See THE LANCET, July 23rd, 1898)

THE PLYMOUTH POLICE SURGEON.—At a recent meeting of the Plymouth Town Council the Watch Committee reported that as the result of correspondence passed between Mr. Wolferstan, police surgeon, and the town clerk with regard to the duties and office of the police surgeon they had resolved that Mr Wolferstan be requested to resign the office at the termination of the current financial year. After a considerable discussion the council negatived the minute of the Watch Committee by 30 votes to 11. Mr. Wolferstan who has been police surgeon in Plymouth for 25 years is to be congratulated upon this result.

VACCINATION IN BARTON REGIS (EXETER).—At the meeting of the Barton Regis Board of Guardians held on Feb. 17th the clerk stated that the particulars of the return respecting the vaccination of children from Jan. 1st to June 30th, 1898, in the vaccination districts of Clifton, St. Philip and Jacob, Ashley, Westbury, Stapleton, Winterbourne, and St. George were as follows: number of births returned 1570, successfully vaccinated 619, insusceptible 3, dead not vaccinated 137, and "conscientious objections" 58. The number of these births which on Jan. 31st, 1898, remained unentered in the vaccination register was as follows: postponed by medical certificate 84, removed to districts of which the vaccination officer has been apprised 107, and removed to places unknown 30. The number of these cases remaining on Jan. 31st, 1899, neither duly entered in vaccination register nor temporarily accounted for in the report book was 532

Obituary.

WILLIAM RUTHERFORD, M.D. EDIN., F.R.S.,

PROFESSOR OF PHYSIOLOGY IN THE UNIVERSITY OF EDINBURGH.

THE medical profession, not only in Scotland or the United Kingdom, but in every country where a school of medicine exists, will share with us our deep regret at the death of Professor William Rutherford, Professor of Physiology in the University of Edinburgh, which occurred on Tuesday last, Feb. 21st, at his residence, 14, Douglas-crescent, Edinburgh.

Professor Rutherford was born at Ancrum in Roxburghshire just 60 years ago and was educated first at one of those local grammar schools of which Scotland is so justly proud and afterwards at the University of Edinburgh which he was later to adorn with his great gifts of teaching and investigation. He graduated in medicine in 1863, obtaining the gold medal for his thesis, and after filling the usual resident appointments became assistant demonstrator of anatomy at Surgeons' Hall, Edinburgh, his chief being Professor (now Sir John) Struthers. He then went on a tour of the great continental medical schools, which were at that time—that is to say, in 1864—far better equipped scientifically than the British schools. He visited and studied at Berlin, Vienna, and Paris, and when he returned to Edinburgh a year later was already marked out as a rising physiologist. In 1865 the late Dr. Hughes Bennett, who had himself studied deeply in the French and German schools of medicine and who was at that time Professor of the Institutes of Medicine in the University of Edinburgh, appointed Rutherford as his assistant. Here he showed himself so thoroughly competent and advanced a physiologist that it came—at any rate, to his Scotch contemporaries—as but little surprise that in 1869, when only 30 years of age, he should be appointed Professor of Physiology in King's College, London. In 1871 he became Fullerian Professor of Physiology in the Royal Institution of London, and in 1874 returned to his old University of Edinburgh as Professor of Physiology.

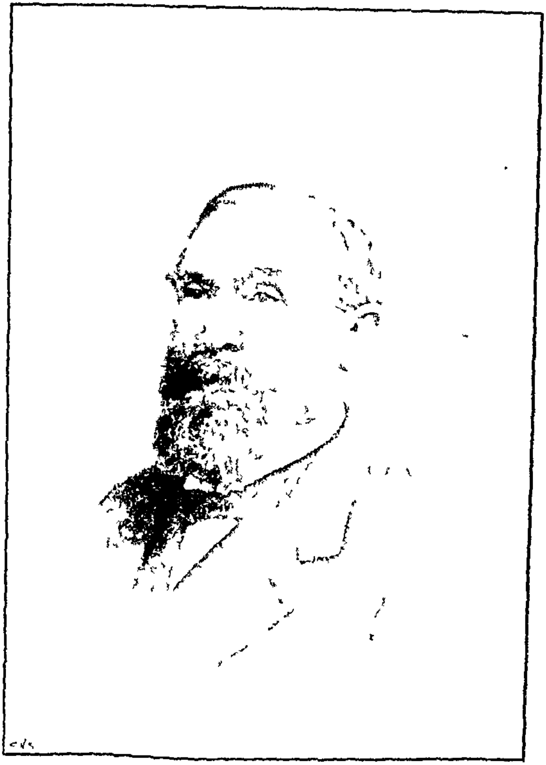
The following estimate of Professor Rutherford's work in the chair with which his name will be for ever associated is from the pen of Professor Sims Woodhead, not his least distinguished pupil:—

"Those Edinburgh men who first knew Professor Rutherford in 1874 will scarcely be able to realise Edinburgh University without its late Professor of "The Institutes of Medicine." Those of us who attended his first series of lectures will remember the impression which was made, not so much in the introductory lecture perhaps as when he came to deal with the real work of the session. We should as soon have thought of going without our morning bath or our breakfast as of missing a single minute of Rutherford's lecture or of the catechism which so frequently preceded it. At first we were struck by the thoroughness and patience with which he drilled into us the most elementary facts, but any feeling thus generated was rapidly lost in our admiration of the never-failing success of his experiments, which we soon came to see was the result not only of a wide and accurate knowledge of his subject but of an enormous expenditure of time, ingenuity, and labour. There can be no doubt that the influence exerted by Rutherford in moulding the minds and careers of the men who came within its sphere was due not so much actually to what he taught (though that was always most carefully brought up to date) but to the fact that we were led to look upon his lectures and demonstrations as the manifest outcome of an enormous amount of labour and careful preparation. Whatever Professor Rutherford's position may be in future as an original experimentalist his influence in that direction can never for a moment compare with the influence which he has had indirectly as a teacher, and had he not made a single contribution of his own to physiological science his name in future must rank amongst those of the great teachers of whom Edinburgh is so justly proud. With all this, however, Rutherford was always an ardent investigator, and such time as was not devoted to the preparation of his lectures and demonstrations or to music was given to investigation. I well remember the awe with which I was inspired when I was allowed to go and help in a very small way by counting the drops of bile or by watching the respiration of animals with which Rutherford, assisted by the late Dr. Vignal, was carrying on his experiments on cholagogues and the secretion of bile. Early and late during our summer sessions were these men at work, and we students recognised in Rutherford a man of great physical energy, of strong intellectual power, and of untiring interest in the study and teaching of physiology. This general impression it was that explains the enthusiasm with which his assistants—of whom I remember Stirling, De Burgh Birch, Berry Haycraft, Anderson Stuart, Mc Cormack, Ashdown, Alexander, and Carlier—entered into the work of the department.

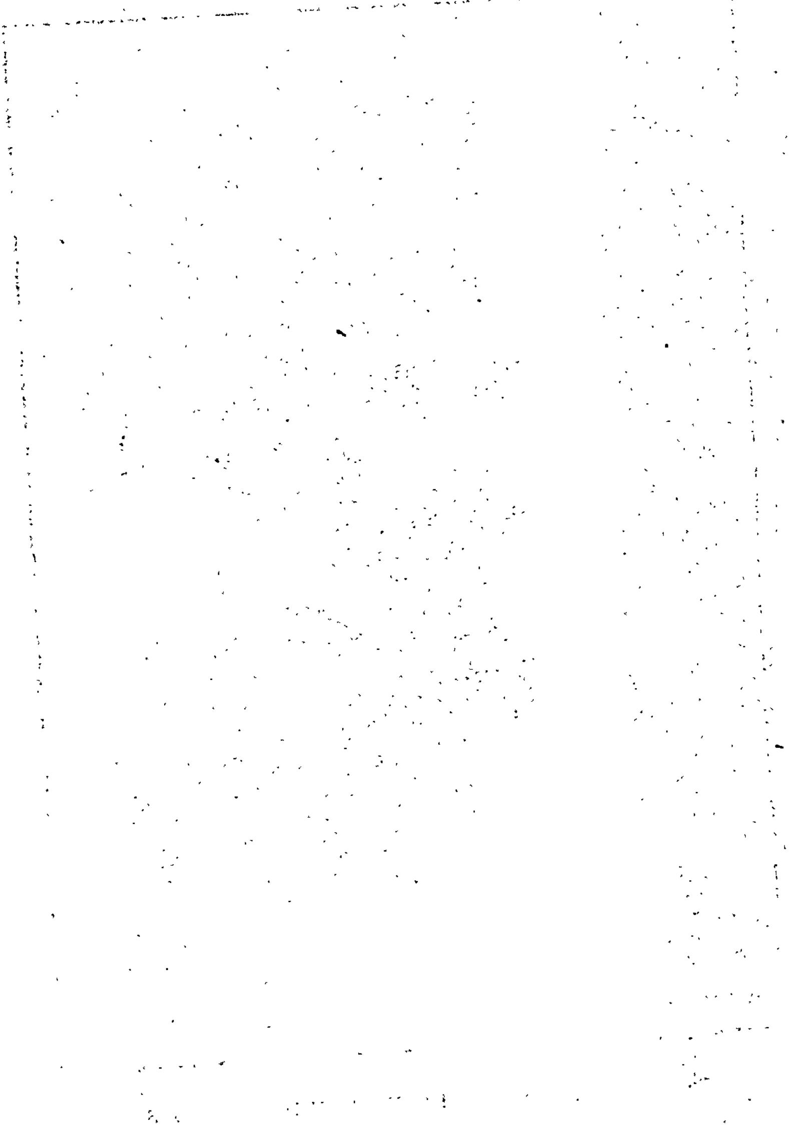
"Professor Rutherford with all his little peculiarities and mannerisms—in fact, perhaps partly because of them—was a great favourite with the students. He was a good musician and an old secretary of the University Musical Society; and the present writer—a secretary of later date—who had the pleasure of serving with him on the committee of that society, recalls that it was during the time of Rutherford's membership that this society was at its best. Many old Edinburgh Musical Society men will have the pleasantest recollections of his appearances in the music class-room where, in the intervals of choral singing conducted by Sir Herbert Oakley or the late Mr. G. O. Sinclair, or between the organ solos of Professor Oakley, he would join some of the groups of students and discuss with them the knotty points connected with the work of the society, or encourage a nervous musical lad. Who will ever forget the roar of applause which always greeted his appearance at one of the old K. C's., as slowly mounting the platform he would advance to the piano, and with chest thrown forward, head well back, eyelids half closed, after a few preliminary chords would announce that he would sing "a little thing of his own"? Then with wonderful voice and a dashing accompaniment he would give "The Warrior's Pledge," a stirring song of which both words and music were his own.

"Of his many kind and generous actions to students in difficulties probably no man will ever know, but many a man has gone to him when he has been in difficulty, and often, where more than advice was required, has come away not empty-handed; while several men who could now ill be spared from our ranks owe it to Professor Rutherford's kindliness and generosity that they have been able to complete their medical studies. Two instances at least have come to the personal knowledge of the present writer. During the period of his nervous breakdown the students who had known Professor Rutherford before this illness came on could not understand the change which appeared to have taken place in him, but throughout it all they remained loyal to their old teacher and no one rejoiced more heartily than they on his restoration to health. Whoever may be appointed to succeed him must necessarily be a good man, for there are many able physiologists from amongst whom his successor will be selected, but whoever he may be, and whatever his qualifications, he can never exactly fill the place of Rutherford, at any rate in the estimation of his old pupils. He was a great landmark in the history of the University—a great teacher, a man who appeared to keep in sympathy with his pupils from his very earnestness in work and who, had he been less shy and had his mannerisms been fewer, might not have attracted the student as, considering the nature of his work, it was his good fortune to do. I have gone to him on all kinds of errands—to ask him to sing, to ask him to give prizes, to ask him to subscribe to the athletic club funds, to the Musical Society, to the Union, to come out to the University games, or to specially patronise some athletic function—and never once have I come away empty-handed or without feeling that his contribution was given or his presence promised because he took a real interest, not only in the work, but in the healthy amusements of the students. Some men exert one kind of influence for good, others another, but it will be easily seen that whatever weakness or foibles Rutherford may have had his interest in and desire for the welfare of his students were both genuine and deep."

To Dr. Sims Woodhead's words there remains little for us to add. From the time that Rutherford went back to Edinburgh as Professor of Physiology his life was his work, and the earnestness with which he threw himself into it was the common knowledge of all, as it was the subject of common admiration. He was elected a Fellow of the Royal Society in 1876, having then been for 16



PROFESSOR WILLIAM RUTHERFORD, M.D. EDIN., F.R.S.



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years a Fellow of the Royal Society of Edinburgh. His published works comprise a treatise entitled "The Outlines of Practical Histology," which was published in 1877; "The Action of Drugs on the Secretion of Bile," a book recording the results of his own elaborate investigations which was published in 1879; certain introductory addresses to his classes summarising the scope of modern physiology; and contributions to the Transactions of the Royal Society and of the Royal Society of Edinburgh, to the *Journal of Anatomy and Physiology*, and to our columns, where his excellent "Lectures on Experimental Physiology" first appeared with full illustrations.

Professor Rutherford fell a victim to influenza. Some fortnight ago he was suffering from this insidious epidemic, but he had rallied and the sad issue was not in the least expected. On Monday evening, however, he experienced a relapse which terminated fatally.

CHARLES BADER, M.R.C.S.ENG., L.S.A.,

CONSULTING OPHTHALMIC SURGEON TO GUY'S HOSPITAL.

THE death of Mr. Charles Bader was announced in our columns last week. The regretted event took place on Monday, Feb. 13th, at his country house at Stoke Ferry, Norfolk, where he had lately passed most of his time.

Charles Bader was educated in his native land, Germany, and came to London in 1861 to be assistant ophthalmic surgeon to Mr. A. Poland who with Mr. J. F. France then had charge of the eye wards of Guy's Hospital. He was elected full ophthalmic surgeon to the hospital in 1873 but filled the post for nine years only, having left the hospital 17 years before his death which occurred at the age of 72. During his 20 years of service to Guy's Hospital he did excellent work for the special branch to which he was attached, raising it from a very small department to a position as high as that enjoyed by any special department of any metropolitan hospital. He was a man of great energy, a brilliant operator, and also most original in his methods, so that it is not surprising that for many years he had a very large private practice.

Mr. Bader was a man of many interests outside his profession, a fact which accounts to some extent for the pleasure which so many of his patients took in his society. He was a good athlete, and could box and fence better than most men. Since his retirement from the active staff of Guy's Hospital, particularly of late years, he was much interested in the raising of stock, and bred large quantities of sheep and horses on his Norfolk property at Stoke Ferry where he died.

WILLIAM THOMSON CRABBE, F.R.C.S.EDIN.

BY the death of Mr. William Thomson Crabbe, which occurred on Feb 13th, Birmingham has lost one of her best-known medical men. Mr. Crabbe was educated at Edinburgh, taking the L.R.C.P. and L.M. in 1865 and the F.R.C.S. in 1872. He practised for some time near Edinburgh, but finally made up his mind to devote himself entirely to medical mission work. He commenced this first of all at Aberdeen, but in 1876 accepted an offer to go to Birmingham as the head of the newly-founded Medical Mission in that city. There his work was so successful that soon it became necessary to provide further accommodation. In the spring of 1896 Mr Crabbe's health began to fail and he took a six months' holiday, visiting Egypt and the Holy Land—a proceeding which greatly benefited his condition. He continued his work until December, 1898, when he was taken suddenly ill. He underwent an operation with the result of obtaining relief, but he gradually got weaker and died on Feb. 13th. He leaves a widow and three sons, two of whom are members of the medical profession.

CHARLES ARTHUR DIXON, M.R.C.S.ENG., L.R.C.P. LOND.

BY the death of Mr Charles A. Dixon on Feb. 6th at the age of 30 years the medical profession in Leeds has sustained a severe loss, his career from early student days down to the time of his enforced retirement from active work having been one of great promise. His good work at the hospital under the late Mr. McGill gave him an early reputation in medical circles and in later years he built up a large practice. He was one of the first anæsthetists appointed to the Leeds Infirmary and discharged the anxious duties of that responsible office in a manner which won for him the respect and admiration of those with whom he worked. Unfortunately, however, an attack of influenza followed by pleurisy cut short his onward progress. After passing through a prolonged illness it was thought best for him to seek a milder climate and he undertook a voyage to the Cape, intending to settle there. On the outward journey, however, his strength began to fail and on landing symptoms developed themselves which compelled him to obtain advice, which was to the effect that he ought to return home at once. A week later found him again on board; a very rough voyage hastened the end and he was landed at Southampton in a dying condition. His relations met him and there was little more than time to say farewell, for two days later he died. Those who knew Charles Dixon's sterling honest upright character feel that they have lost a friend whose memory will remain.

SAMUEL LEONARD CRANE, M.D. PENN., M.R.C.S. ENG., C.M.G.

THE death is announced on Jan. 25th of Dr. Samuel Leonard Crane. The deceased was born in 1830, graduated as M.D. of the University of Pennsylvania in 1850, and became a Member of the Royal College of Surgeons of England in 1855. He was Surgeon-General of Trinidad from 1871 to 1893, superintendent medical officer for Jamaica from 1893, and a member of the Legislative Council from 1894. In 1888 he was made a Companion of St. Michael and St. George.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Karl Schönlein, of the Naples Zoological Station. He was born in 1858 and studied in Halle. He was afterwards assistant to Professor Fick in Würzburg and for a couple of years acted as Professor of Physiology in the University of Santiago, Chili. Since 1892 he had been in charge of one of the divisions of the Naples Zoological Station. His published papers dealt principally with the physiology of the nervous and muscular systems.—Dr. Joseph Finger, Emeritus Professor of Medicine in Lemberg, at the age of 80 years.—Dr. Denis Monier, Professor of Biological Chemistry in the University of Geneva.—Dr. Wolfhügel, Professor of Hygiene and Bacteriology in the University of Göttingen.—Dr. Thomas, formerly Clinical Professor of Medicine in the Rheims Medical School.—Dr. Leon Fluymers, Assistant in the University of Liége.—Dr. Joseph Ritter von Maschka, formerly Professor of Forensic Medicine in the German University of Prague, a post which he held from 1858 to 1891. He was exceedingly popular both with students and with the laity and was at various times elected to important and honourable posts by his professional and professorial colleagues. He was in his seventy-ninth year.

LITERARY INTELLIGENCE.—Mr. H. K. Lewis will publish immediately the Lumleian Lectures, "On the Principles which Govern Treatment in Diseases and Disorders of the Heart," by Sir R. Douglas Powell, Bart., M.D. Lond. The same publisher has also in the press a new work by Mr. J. W. Taylor, F.R.C.S. Eng., on "Extra-Uterine Pregnancy," also a work by Dr. Maro Tuchmann "On the Exploration of the Urethra and Bladder." Both of these works will be fully illustrated.

VACCINATION LITERATURE.—At the meeting of the Cirencester Board of Guardians held on Feb. 15th it was stated that an answer had been received from the Local Government Board in reply to a letter from the guardians asking whether they had power to incur the expense of purchasing and distributing literature in favour of vaccination. The Local Government Board wrote that, assuming this literature to consist of pamphlets and leaflets and to be issued by some responsible authority on the subject, the Board would have no objection to the guardians incurring reasonable expense in obtaining the same and distributing it in the union. The guardians decided to send a copy of the letter to Dr Bond, the medical officer of the union and honorary secretary of the Jenner Society, asking him to send the necessary pamphlets for distribution.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On Persistence of Enteric Fever in the Swinton and Pendlebury Urban District and on the Sanitary Circumstances and Administration of the District; by Dr. THEODORE THOMSON.[1]—At a time when much attention is being given to the causation of endemic typhoid fever, accounts such as Dr. Thomson gives of the circumstances of the Swinton and Pendlebury district, where for 10 years past there has been a sustained attack-rate and a correspondingly high mortality from this disease, will be read with exceptional interest. This district lies some four miles to the north-west of Manchester and it had a population at the last census of 21,637. The inhabitants are for the most part colliers, weavers, and cotton-spinners, and nearly all the houses in the district are inhabited by persons of the working class. The district stands upon drift—principally glacial sand—overlying the coal measures. Mortality statistics given by Dr. Thomson for the period 1888-1897 show that as a whole the death-rate from all causes in Swinton and Pendlebury is much the same as that of England and Wales. The zymotic death-rate in the former, however, is materially higher, while the death-rate from enteric fever plus continued fever is more than double the "fever" rate in the 33 great towns and two and a half times that of England and Wales. In dealing with attacks of enteric fever Dr. Thomson contrasts the annual attack-rate from enteric fever (as shown by notification returns) in Swinton and Pendlebury with corresponding rates in certain towns during the five years 1893-97. In the former case the annual attack-rate per 1000 of population during the period 1890-1897 was no less than 2·13. In the latter case the statistics are, so far as we are aware, new, and they have so high a value as standards of comparison that we quote Dr. Thomson's table in full.

Towns.	Annual attack-rates per 1000 from enteric fever during the five years 1893-97.	Towns.	Annual attack-rates per 1000 from enteric fever during the five years 1893-97.
Aston Manor	0·94	London	0·77
Barnsley	3·03	Macclesfield	0·67
Barrow-in-Furness ...	0·31	Merthyr Tydfil	2·21
Bath	0·32	Middlesbrough	2·41
Birmingham	1·00	Newport (Mon.)... ...	0·93
Bournemouth	0·19	Northampton	0·41
Bradford	0·73	Oxford	0·47
Bristol and St. George	0·62	Plymouth	0·45
Burton-on-Trent ...	1·07	Salford	1·60
Cambridge	1·15	St. Helens (Lancs.) ...	2·63
Cardiff	0·55	Sheffield	1·54
Carlisle	0·42	Smethwick	0·77
Colchester	0·53	Southampton	0·95
Coventry	0·65	Southport	0·81
Darlington	1·61	South Shields	1·35
Devonport	0·64	Stockport	1·37
Dover	0·36	Tottenham	1·52
Eastbourne	0·69	Tynemouth	0·93
Exeter	1·65	Walsall	1·01
Gloucester	0·72	Walthamstow	1·59
Grimsby	2·96	West Bromwich... ...	1·42
Hornsey	0·60	West Hartlepool ...	0·95
Hull	1·60	Wolverhampton ...	1·44
*Leeds	1·09	Worcester	0·76
Leyton	1·29		
Liverpool	2·17	Fifty towns ...	1·03

* Leeds from 1895-1897 only.

In Swinton and Pendlebury the water-supply is the same as that of Manchester. It is obtained from Thirlmere, and may be regarded as free from suspicion of conveying enteric fever infection. This is merely a repetition of the experience of numerous other localities where notwithstanding water supply of undoubted purity typhoid fever is endemic. The sanitary circumstances with which the prevalence of enteric fever is associated in this district are such as freely conduce to soil pollution—"unpaved and badly paved yards, allowing refuse, both liquid and solid, to pollute the ground; defective house and yard drains, bringing about a like result; and, above all, large privy middens containing the accumulated excreta of months, much of the more liquid part of which soaks into and fouls the neighbouring soil. In addition to the fouling of the soil thus brought about by these middens, pollution of the ground surface takes place each time they are cleansed, by reason of their contents being cast upon passages and streets and left there pending the removal of these matters by the nightsoil cart." These defects, as well as many others enumerated by Dr. Thomson, show that the district council can hardly be excused from charges of indifference to the public health of their district. Administration by the sanitary department appears to have been lax, although latterly there has been some improvement. But evidently satisfactory progress cannot be expected until a larger staff has been provided. The local authority contracts with Manchester and with Salford for hospital isolation of infectious cases, but to what extent their enteric fever cases are usually isolated in hospital does not seem to have been determined. Dr. Thomson lays stress upon the association of enteric fever with neighbourhoods inhabited by the working classes and the poorer classes. To what extent poverty and dirt, apart from any special association with polluted soil, faulty drainage, accumulation of excrement near dwellings, and the like, conduce to enteric fever infection, and what is their share in endemic enteric fever, are interesting questions. The report shows clearly how great the influence of soil pollution has been. Dr. Thomson's observations on this subject bring home to the reader the need there is for investigations of the kind which he has pursued in Swinton and Pendlebury in a large number of districts where enteric fever is endemic with a view to determining what are the essential factors which go to make up a condition of soil which is capable of harbouring the typhoid bacillus from year to year. Comprehensive inquiry in this matter, supplemented by laboratory investigations, might, we think, be instituted with great advantage by the central public health department of the country.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Carlisle Urban District.—Mr. William Brown, the medical officer of health of this district, furnishes some interesting information in his current annual report as to dealing with tuberculosis in Carlisle. An experienced veterinary surgeon has been appointed who examines all the dairy cattle in the district once every three weeks and he also makes a careful examination of all cows newly received into the Carlisle cow-sheds. Since this appointment six cases of tubercle of the udder and six cases of mammitis have been detected. The tuberculin test is, too, being looked upon with favour in Carlisle and cows found to have tuberculosis of the udder are either slaughtered or removed out of the district where apparently they may still yield milk which eventually reaches Carlisle. Mr. Brown tells us that the statistics of the Carlisle public slaughter-house have brought out the fact that cows of the shorthorn breed are very prone to general tuberculosis and he exhorts dairymen to select some other breed less liable to this disease. He recommends the Scotch Galloway or the cross-bred blue-grey kinds. Mr. Brown thinks that phthisis should be notifiable and he is of opinion that medical men would willingly supply the necessary information.

Thingoe Rural District.—The Thingoe Board of Guardians, which is nearly identical with the district council, passed at their last meeting in 1898 a resolution expressing their opinion that great danger has arisen by virtue of the conscience clause in the Vaccination Act of 1898 and requesting the Local Government Board to reconsider the vaccination laws with a view to making them compulsory. We are glad to see this board of guardians taking a decisive action and although we doubt whether this representation will have the effect which they desire it may do something towards promoting a Bill for revaccination, which in the present state of affairs is much to be desired.

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[1] London: Eyre and Spottiswoode, East Harding-street; Edinburgh: John Menzies and Co.; Dublin: Hodges, Figgis, and Co. Price *3d.*

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 7028 births and 4275 deaths were registered during the week ending Feb. 18th. The annual rate of mortality in these towns, which had increased in the three preceding weeks from 17·0 to 21·9 per 1000, declined again last week to 19·5. In London the rate was 19·3 per 1000, while it averaged 19·7 in the 32 provincial towns. The lowest death-rates in these towns were 10·5 in Leicester, 12·1 in Huddersfield, 14·5 in Portsmouth, and 14·9 in Cardiff and in Hull; the highest rates were 25·4 in Birkenhead, 27·7 in Salford, 27·9 in Liverpool, and 28·8 in Preston. The 4275 deaths in these towns included 340 which were referred to the principal zymotic diseases, against 340 and 403 in the two preceding weeks; of these, 92 resulted from whooping-cough, 88 from diphtheria, 64 from measles, 41 from "fever" (principally enteric), 32 from diarrhœa, and 23 from scarlet fever. No death from any of these diseases occurred last week in Huddersfield; in the other towns they caused the lowest death-rates in Plymouth, Leicester, and Bradford, and the highest rates in Swansea, Birkenhead, Manchester, and Halifax. The greatest mortality from measles occurred in Manchester; from whooping-cough in Cardiff, Nottingham, Birkenhead, Halifax, and Sunderland; and from "fever" in Gateshead. The mortality from scarlet fever showed no marked excess in any of the large towns. The 88 deaths from diphtheria included 40 in London, eight in Sheffield, five in West Ham, five in Swansea, four in Birmingham, four in Liverpool, three in Birkenhead, and three in Leeds. No fatal case of small-pox was registered last week in any of the 33 large towns, and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday last, Feb. 18th, was 2587, against numbers declining from 2939 to 2642 at the end of the seven preceding weeks; 202 new cases were admitted during the week, against 220, 265, and 253 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 348 and 381 in the two preceding weeks, declined last week to 413, and were 63 below the corrected average. The causes of 48, or 1·1 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Salford, Bradford, Leeds, Hull, and in 15 other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Swansea, Liverpool, and Preston.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the four preceding weeks from 21·3 to 31·2 per 1000, declined again to 28·0 during the week ending Feb. 18th, but exceeded by 8·5 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 18·0 in Dundee and 18·6 in Perth to 32·5 in Greenock and 34·5 in Paisley. The 855 deaths in these towns included 31 which were referred to whooping-cough, 14 to diarrhœa, 11 to scarlet fever, nine to measles, seven to "fever," and four to diphtheria. In all, 76 deaths resulted from these principal zymotic diseases, against 95 and 101 in the two preceding weeks. These 76 deaths were equal to an annual rate of 2·5 per 1000, which was 0·9 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had been 43 and 37 in the two preceding weeks, further declined to 31 last week, of which 11 occurred in Glasgow, 10 in Edinburgh, and four in Leith. The deaths referred to scarlet fever, which had declined from 14 to six in the three preceding weeks, rose again to 11 last week, of which seven were recorded in Glasgow. The nine fatal cases of measles showed a marked decline from recent weekly numbers, and included five in Glasgow, two in Edinburgh, and two in Aberdeen. The deaths referred to different forms of "fever," which had been two and eight in the two preceding weeks, were seven last week, of which six occurred in Glasgow. The deaths from diseases of the respiratory organs in these towns, which had been 262 and 346 in the two preceding weeks, declined to 285 last week, but were as many as 194 above the number in the corresponding period of last year. The causes of 30, or nearly four per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 31·8 and 31·6 per 1000 in the two preceding weeks, further declined to 27 during the week ending Feb. 18th. During the past four weeks the rate of mortality in the city has averaged 28·9 per 1000, the rate during the same period being 19·3 in London and 25·9 in Edinburgh. The 183 deaths registered in Dublin during the week under notice showed a decline of 29 from the number in the preceding week, and included eight which were referred to the principal zymotic diseases, against 10 and eight in the two preceding weeks; of these, four resulted from whooping-cough, two from diphtheria, and two from "fever," but not one either from small-pox, measles, scarlet fever, or diarrhœa. These eight deaths were equal to an annual rate of 1·2 per 1000, the zymotic death-rate during the same period being 1·6 in London and 2·4 in Edinburgh. The fatal cases of whooping-cough, which had declined from five to two in the three preceding weeks, rose again to four last week. The two deaths from diphtheria exceeded the number in any recent week. The deaths referred to different forms of "fever," which had been one and four in the two preceding weeks, declined again to two last week. The 183 deaths in Dublin last week included 27 of infants under one year of age and 58 of persons aged upwards of 60 years; the deaths of infants showed a further marked decline from recent weekly numbers, while those of elderly persons were within one of the number recorded in the preceding week. Six inquest cases and three deaths from violence were registered; and 63, or more than a third, of the deaths occurred in public institutions. The causes of 14, or nearly 8 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are announced:—Staff Surgeons: F. J. Lilly to the *Resolution*; W. Tait to the *Colossus*; and J. R. MacDonnell to the *Mars*. Surgeons: W. Bowden, D.S.O., to the *Trafalgar*, and R. H. Mornement to the *Eclipse*.

ROYAL ARMY MEDICAL CORPS.

The under-mentioned Surgeons on probation to be Lieutenants: Harold Percy Waller Barrow, John Edward Hodgson, Alic Lawiston Scott, Lionel Edmund Longworth Parker, James Geoffrey Gill, George William Grey Jones, Matthew Henry Gregson Fell, Gerald Hamilton Goddard, William Bertram Winkfield, Thomas Champion Lauder, Jonas William Leake, John William Hobart Houghton, Duncan Edward Carme, Herbert Stockley Taylor, George Mills Goldsmith, Richard Harte Lloyd, David Harvey, John Macfarlane Sloan, Henry Evered Haymes, Francis John Brakenridge, George Constantine Phipps, Nathaniel John Crawford Rutherford, Gilbert John Anthony Ormsby, Harry Dixon Packer, Lawrence Humphry, Robert Stuart Rodger, William Watson Scarlett, Horace Kemp Palmer, Arthur Oliver Bird Wroughton, and Frank Ashe.

Colonel J. A. Clery, R.A.M.C., is appointed Principal Medical Officer, Thames and Woolwich districts, vice Colonel R. P. Ferguson. Colonel A. W. Duke, R.A.M.C., is appointed Principal Medical Officer, North-Western District. Lieutenant R. E. G. Phillips joins at Woolwich for duty. Major L. P. Mumby has embarked for India. Major H. J. Barnes assumes medical charge of officers and their families, women and children, at Colchester. The following officers have been posted as follows: Lieutenant-Colonel Carey and Major Berryman to Bengal, Major Marder to Madras, and Major Stables to Bombay.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Andrew Arthur Abraham, 5th Volunteer Battalion the Durham Light Infantry, to be Surgeon-Captain.

INDIAN MEDICAL SERVICE.

The Queen has approved of the restoration of Captain

John Plowden Morton, Madras Establishment, from the Half-pay List to the Effective List.

VOLUNTEER CORPS.

Rifle: 2nd (Prince of Wales's) Volunteer Battalion the Devonshire Regiment: Surgeon-Lieutenant C. C. Brodrick resigns his commission. 4th Volunteer Battalion the Devonshire Regiment: Surgeon-Lieutenant E. H. Sutcliff resigns his commission. 1st Volunteer Battalion the Royal Scots Fusiliers: Surgeon-Lieutenant-Colonel J. McAlister retires under the provision of Paragraph 111 of the Volunteer Regulations, 1898, with permission to retain his rank and to continue to wear the uniform of the battalion on his retirement. 1st Surrey (South London): Richard Jocelyn Swan to be Surgeon-Lieutenant. 1st Wiltshire: Surgeon-Lieutenant P. J. Barcroft resigns his commission.

"THE TRANSPORT OF SICK SOLDIERS."

The above subject was referred to in this column last week. The correspondence has been continued in the *Morning Post* by "Surgeon-Major" who agrees for the most part with our contemporary's previous correspondent and incidentally characterises the military arrangements at the Hospital of Hong-Kong as a "disgrace to civilisation." He however agrees with our contention *that it is the War Office* who are to blame. He says: "But the blame must not be laid on the Army Medical Service, for as matters now stand it is powerless to enforce its own recommendations, the War Office having the right of veto on all matters medical; the saddle must therefore be fitted to the right horse. As I have already stated, I have seen the working of army hospitals in several other countries, and I have no hesitation in stating that our War Office would be well advised if it put some of its obstinate pride in its pocket and went to France, Germany, Japan, Italy, or even Portugal, for some novel, practical, and humanitarian ideas as to how military hospitals should be equipped and worked, for I regret to say that Great Britain is nearly half a century behind the times in this respect. ...... Let the Director-General of this department be given a free hand and then held responsible to the nation for his stewardship. Anything short of this will only land the department in hopeless disaster in a big war."

THE POST OF SURGEON-GENERAL OF HER MAJESTY'S FORCES IN INDIA.

Surgeon-General Gore has arrived in this country from India on having completed his tour of service as principal medical officer in that command. As we have already announced he will be succeeded by Surgeon-General W. Taylor, C.B., who is leaving England to take up the appointment vacated by Surgeon-General Gore. The rumours as to the abolition of the separate post of Surgeon-General of Her Majesty's forces in India and its amalgamation with that of the office of the head of the Indian Medical Service were, as we *predicted would be the case, without foundation.* Colonel Townsend, R.A.M.C., is officiating in the appointment pending the arrival of Surgeon-General Taylor.

SEA TRIPS FOR SICK SOLDIERS.

We learn (on the authority of the *Times of India*) that the Indian Government have accepted the proposal to send sickly British soldiers on sea trips in Indian Marine vessels this season whenever it is possible to *find room for* such men. We congratulate the Indian authorities on their decision, for it is quite a step in the right direction from a medical and hygienic point of view.

THE POST OF PRINCIPAL MEDICAL OFFICER IN EGYPT.

It has, we believe, been settled that a Surgeon-General is no longer needed for the medical direction of the British Forces in Egypt and that Surgeon-General Price who was to have succeeded Surgeon-General Skey Muir will not do so, but that an officer of the rank of Colonel of the Royal Army Medical Corps will be nominated to the post.

DEATH IN THE SERVICES.

Deputy Surgeon-General Henry *R. L. MacDougall, Bombay* Army (retired), at Dunollie, Oban, on Feb. 9th, in his sixty-fourth year.

The following officers of the Royal Army Medical Corps on their arrival in India are to be posted as follows: Lieutenant-Colonel Carey and Major Berryman to Bengal, Major Marder to Madras, and Major Stables to Bombay.

Correspondence.

"Audi alteram partem."

DIFFICULTIES UNDER THE NEW VACCINATION ACT.

To the Editors of THE LANCET.

SIRS,—I was lately required by the usual notice from th vaccination officer of a union in which I am one of th public vaccinators to visit and offer to vaccinate a chil *in my district residing, according* to the notice, five mile from my own residence. I gave the statutory notice b post and in due course made an express visit to the state place of abode but found no such child resident there. was informed that the family had removed into anothe union some 10 or 12 miles distant. Am I not entitled t claim from the guardians in addition to the usual 1*s.* fe payment for my express journey, so fruitless, by some carelessness on the part of their vaccination officer? I shal claim 5*s.* at the end of the quarter.

I am, Sirs, yours obediently,
W. ROBERTSON.

Glanton, R.S.O., Northumberland, Feb. 15th, 1899.

*** The Vaccination Order of 1899 makes no provision fo such a case, and such an occurrence, under ordinary circumstances, should not be possible. The vaccination officer is only allowed to place on the list which he sends to the public vaccinator the names of children to whose houses he has himself just paid a personal visit, and the vaccination officer's action in this matter calls for inquiry. Then, again, a fortnight is given to the public vaccinator in which to make his visits for the purpose of offering to vaccinate children, and the fee of 1*s.* per visit was based on the assumption that he would so arrange his work that all the cases in one direction or locality would be visited on the same day. If our correspondent had a 10 miles' journey to and fro and could only make one such visit, then his district *is* one as to which *it* is quite certain that the Local Government Board would on his application grant more than the minimum fees of 1*s.* and 5*s.*; indeed, they are stated to have done so already in a considerable number of cases.—ED. L.

To the Editors of THE LANCET.

SIRS,—If I read Section 1, sub-section (3) of the Vaccination Act of 1898 aright the public vaccinator referred to by your correspondent "L.R.C.P., M.R.C.S." in THE LANCET of Feb. 18th was not only acting strictly within his rights, but he was performing the duty most plainly imposed upon him by the terms of that much-discussed measure. *"Fathers* in lucrative business" are not exempt from the operation of the Act—dukes and crossing-sweepers alike must own its sway. Yet I feel sure it needs only the relation of a few more such experiences as those of "L.R.C.P., M.R.C.S." and of your other correspondent "P.V." to convince our legislators that the Act is thoroughly unworkable in actual practice. We can but hope that the letters of these two gentlemen may do something to aid the *movement for its* repeal.

I am, Sirs, your faithfully,
M.B. EDIN.

Feb. 19th, 1899.

To the Editors of THE LANCET.

SIRS,—A letter appeared in THE LANCET of Feb. 18th, under the above heading in which "L.R.C.P., M.R.C.S." complains of the public vaccinator of his district. If "L.R.C.P., M.R.C.S." would read through the Local Government Board's Orders under the Vaccination Acts, 1867–1898, he would become aware that his public vaccinator had only carried out those Orders. The work under the new Act, I know, is distasteful to all concerned, not only to parents and family medical attendants, but also to the public vaccinator, who should not be found fault with for doing his duty because that happens to be disagreeable to others besides himself. "L.R.C.P., M.R.C.S." complains of notices of intention to visit and offer to vaccinate being sent to patients "*irrespective of their position*"; the reply is obvious—the only distinction of persons made in the Act is as between those who have been vaccinated before reaching the age of four months (or who hold an exemption certificate or are dead) and those who have not been vaccinated at that time of life. The reply to what is left of the letter is this. Had "L.R.C.P., M.R.C.S." not omitted to renew his postponement when the previous postponement lapsed the vaccination officer would not have sent his patient's name to the public vaccinator and all the sequelæ to which exception is taken would have been avoided, and "L.R.C.P., M.R.C.S." would not have had the present opportunity of expressing his opinion upon the working of the Local Government Board's Orders to vaccinators under contract. One word on the general subject. If medical men who are not public vaccinators would only remember that the latter only carry out orders that they had no hand in framing and which they find are frequently very distasteful it might save much friction and unjust feeling.

I am, Sirs, yours faithfully,

Feb. 21st, 1899. PUBLIC VACCINATOR.

To the Editors of THE LANCET.

SIRS,—It is with much satisfaction I read that some public vaccinators find the new duties they have voluntarily undertaken irksome. I hope they will continue to find them so, for such work is opposed to the ethical laws which rule our profession and it is satisfactory to read that law-breaking brings its own reward. If a public vaccinator may call on people of whom he knows nothing except that they have a child unvaccinated and offer his professional services, then I may call at any house where I hear there is measles and offer my professional services The public vaccinator accepts the work for the sake of the pay and I might call on a case of measles for a similar reason. If one is unprofessional conduct, the other must be so too.

Most private practitioners by this time have had experience of the public vaccinator calling on sick children, examining them and offering to postpone the operation, quite oblivious of the fact that to examine a patient under another's charge is grossly unprofessional. This outrageous act is compared to the Notification of Infectious Diseases Act, but there is no comparison from an ethical point of view. The latter Act does not seek to legalise "cadging" or encourage it by offering a reasonably good fee if successful and a ridiculous one if unsuccessful. I fail to see how we are to prevent the younger members of our profession from touting for patients with the example of the public vaccinator before their eyes. "S E. District" thinks it even part of his duty to examine and criticise the work of the medical man in charge I doubt if the supporters of the Act ever dreamt of well-to-do people being urged to be vaccinated at the expense of the rates. It is another drop in the bitter cup of the private practitioner that he has to contribute to the rates which pay his rival for attending the private practitioner's patients. My hope is that the Act is too outrageous and objectionable in every way to last long and I hope all private practitioners will point out its errors to as many electors and Members of Parliament as they can, and perhaps we may live to see it repealed.

I am, Sirs, yours faithfully,

Feb 21st, 1899. P. P.

To the Editors of THE LANCET.

SIRS,—Your correspondent "L.R.C P., M.R.C.S.," evidently does not understand the new duties of a public vaccinator. These are irrespective of the financial position of a child's parents and are clearly defined by the Local Government Board in their General Order dated Oct. 18th, 1898. Firstly, the public vaccinator has to visit and vaccinate all those who desire his services, rich or poor. Secondly, when an unvaccinated child is four months and a week old, if the vaccination officer receives no certificate of postponement or of exemption or of insusceptibility and the child has not had small-pox the name goes on a list which is forwarded to the public vaccinator who has thereupon to visit the child, first sending a notice of his intention to do so, and offer to vaccinate it. If the offer is not accepted there is an end of his duty; if it is accepted the vaccination must be postponed if necessary. I take it the child "L.R.C.P., M.R C S." alludes to was over four months old and the name in that case would go on the list referred to above. Possibly the certificate of postponement reached the vaccination officer after he sent the list to the public vaccinator who, of course, should not call again if his offer is refused or if he finds the vaccination has been postponed by the medical attendant. Under certain circumstances the name might appear again on a subsequent list; in this case the public vaccinator would have to act as before—notice, visit, and offer, even if on the previous occasion the offer was refused.

In THE LANCET of Feb. 18th is also a letter giving "The Experiences of a Public Vaccinator." I would like to say that mine, as far as they go, do not agree with these. I have had nothing unpleasant happen and have had 50 names of children sent me to visit and make "the offer" and with "requests from parents" over 100, and in my district I think the new plan is generally liked, especially the domiciliary arrangement. I think with "P.V." that it would be a capital thing if before sending the list it could be found out who wished to accept his services and I quite agree with him as to the very large amount of work under the new regulations. I am, Sirs, yours faithfully,

Feb. 20th, 1899 ANOTHER "P.V."

To the Editors of THE LANCET.

SIRS,—Is it four marks, three marks, two marks, or one mark? As public vaccinator I have had to call on my brother practitioners' patients and offer to vaccinate and I am asked how many places. I say four and am told that they prefer to have their child done in two places by another medical man. Surely those who frame the law must see that such action must *seriously affect the protective statistics of* vaccination and play into the hands of the anti-vaccinationists I call these "half-breeds," as they will not take advantage of the conscience clause and yet are so-called vaccinated.

I am, Sirs, yours faithfully,

Feb. 15th, 1899 *PUBLIC VACCINATOR II.*

To the Editors of THE LANCET.

SIRS,—There is practising in our town an M.D. and J.P. who has recently been appointed parish doctor and public vaccinator. Would you consider it in accordance with the traditions of the medical profession for the above to be calling on the patients of other medical men who have been recently confined and asking them if they would care to have their children vaccinated by him or by their own medical attendant?

I am, Sirs, yours faithfully,

Feb 14th, 1899. M.B.

⁂ This correspondence touches upon many points which are receiving our attention.—ED. L.

THE MIDWIVES BILL OF THE BRITISH MEDICAL ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—The question of legislation on behalf of midwives is about to enter upon its last stage From the very first the promoters of legislation have sought the protection of the woman of the diploma Later, the opponents of legislation sought the control of all women who attended cases of labour whose names were not upon the Medical Register. The proposed legislation is a compromise. An experience of the subject which may fairly be claimed to be many-sided has led me more and more to the firm belief that if the public weal is to be considered of the first importance any legislation which invests uneducated women with a diploma entitling them to practise midwifery, even under restrictions, is fraught with very great danger; my own experience is further supported by the facts frequently published in the newspapers. It is perhaps of some utility to consider how the present state of affairs originated. The Obstetrical Society of London—or, to be correct, its council—has for many years sold a diploma to those who passed an examination. It has also been the main fomenter of agitation in favour of the midwife from the outset. The proposal for legislation has therefore come from the medical profession or from part of it. The society, judging from Dr. Cullingworth's address, has sold its diploma without any code of rules and regulations to be observed by midwives holding it until the present year.

It is a matter of difficulty to distinguish between the society which covers the practice of midwifery by persons who are not upon the Medical Register by means of a diploma from which an income is derived and medical practitioners who cover the practice of unqualified assistants and derive an income from their work. However, the position of affairs now arrived at is this: registered practitioners individually are not allowed to employ unqualified assistants. Associations of registered practitioners are allowed to cover the practice of unqualified practitioners in midwifery by means of a diploma from the sale of which some registered practitioners derive profit. To put matters in order legislation is demanded by such associations and actively pushed forward.

The main body of the profession, at first somnolent, is at last roused and protests and in the result a compromise is so far embodied in a Bill. It is a matter of common notoriety that the restrictive clauses inserted by the British Medical Association are practically not accepted by the principal promoters of legislation, and moreover that the House of Commons is not a body which is likely to pass restrictive clauses in such a Bill. If a case is made out for the resuscitation of the midwife the House of Commons will probably not restrict her practice. This condition of affairs is, indeed, serious, and it is not easy to find a remedy so late in the day. The birthright of the medical profession has been sold for a mess of diplomas to midwives. If it had not been useful legislation might have been put forward solely upon the basis of control over the practice of all persons who practised midwifery and who are not registered medical practitioners, and legislation upon this basis would have had nothing but support from the medical profession. However this may be, I do not believe for an instant that any attempt to pass the restrictive clauses in the present Bill will be successful, and as a matter of strategy if the medical profession desires to secure the insertion into the Bill of proper restrictions it will have to make it clear to the Members of the House of Commons that control over the practice of midwives is what is required and not the formation of a midwife *brigade* sanctioned by Act of Parliament.

If the present Bill is passed I can see no end to the practical difficulties of its working. A Bill of very few clauses could be framed to control the midwife and to effectually protect the ignorant. It required a Bill of the present size to conceal the intentions of the real promoters and to do a great deal of harm.

I am, Sirs, yours faithfully,

LOVELL DRAGE.

Hatfield, Feb. 21st, 1899.

To the Editors of THE LANCET.

SIRS,—Judging from your leading article in THE LANCET of Feb. 18th it does not appear that you consider a "Midwives Bill" altogether desirable. I cannot help regretting that the influence of your important journal was not rather employed in opposing than in apologising for the proposed legislation. While admitting that the Midwives Bill of the British Medical Association is better than any of the other Bills hitherto put forward I thought it my duty to oppose it when before the Parliamentary Bills Committee for the following reasons: (1) because the great majority of the medical profession are opposed to any such Bill; and (2) because in my opinion it increases the public danger rather than lessens it.

The midwife, especially when occupying the responsible position in which such legislation will place her, can always justify her omission to summon medical assistance in unnatural labour by pleading that she thought the labour was normal. Experienced medical practitioners cannot always diagnose unnatural conditions during childbirth at an early stage and sometimes have to confess that they have lost valuable time through such mistakes. How, then, can it be expected that even the best of the proposed registered midwives should be able to avoid them? It has been repeatedly shown that the medical practitioners in the country are amply sufficient to attend to all cases of labour, and it seems to me that the better policy would be to limit the practice of midwives rather than to extend it, as any such legislation as this must inevitably do. No matter how we look at it, a registered midwife will be a State-recognised practitioner of midwifery; and if the Act of 1886 laid down any principle it was that practitioners in one branch of medicine should cease to be licensed by the State. This principle has been unanimously accepted by the profession and it seems most impolitic to weaken it by legislating in the opposite direction. It is very unlikely that any Midwives' Bill will be seriously considered by Parliament this session, and were the profession united in its opposition I believe it might be defeated altogether. The education of midwives is improving yearly and will continue to do so without further legislation; a system, too, of local registration would do much of the good that this Bill proposes and would not be open to nearly so many objections.

I am, Sirs, yours faithfully,

MAJOR GREENWOOD, M.D. Brux., LL.B. Lond.

Feb. 20th, 1899.

"A FATAL CASE OF LITHÆMIC POISONING."

To the Editors of THE LANCET.

SIRS,—Dr. C. R. Elgood's admirably written "Note on a Fatal Case of Lithæmic Poisoning" in THE LANCET of Feb. 18th raises one or two interesting points. In the first place I am doubtful as to whether the case is quite correctly designated as one of lithæmic poisoning—i.e., as being due to the poisonous effects of uric acid or its compounds while in solution in the blood. In my opinion, judging from the graphic description given by Dr. Elgood, the recurrent attacks were due to irregular gout, and as such were probably caused by deposition of sodium biurate in the organs and tissues affected. This view is borne out by the patient's strong family history of gout, by the nature of the attacks, by the extreme anorexia, by the condition of the pulse, by the occurrence of venous thrombosis during two of the attacks, and by the occurrence between the seizures of what were in all probability two slight attacks of regular gout in the great toe. My own view entirely coincides with that of Sir William Roberts that as long as uric acid, whether in the form of sodium quadriurate or biurate, is in solution in the blood it exerts no toxic effect. The other interesting point is as to whether there was in this case any increase in the elimination of urates. I believe that it is frequently misleading to infer that the elimination of uric acid is increased, because small quantities of urine laden with amorphous urates are passed. In this case during the attacks the quantity of urine eliminated apparently averaged about 20 ounces only and was of high specific gravity. I have frequently found among gouty and other patients who have been passing similar small amounts of urine laden with amorphous urates that on estimating the total output of uric acid for each 24 hours it has been found considerably below the normal output.

I am, Sirs, yours faithfully,

ARTHUR P. LUFF, M.D. Lond.

Weymouth-street, W., Feb. 20th, 1899.

"SEWER VENTILATION."

To the Editors of THE LANCET.

SIRS,—Your brief editorial notice of the dangers arising from the foul air discharged from the sewers and their ventilation pipes revives a recollection of a project which I started in 1858. At that time I was medical officer of health of Shoreditch, then a typical insanitary district. I venture to send you a brief summary of my action in the matter. The practical study of sewers—I spent some hours in main sewers amongst other experiences—led me to consider whether some effective means could not be found to lessen the noxious properties of the gases as they escape from the sewers. It appeared to me that the absorptive property of animal charcoal might be turned to account. I proposed that cages of iron containing a layer of coarsely divided animal charcoal, through which all the air emerging should filter, be fitted to the gullies. There are many places where such cages might be fitted without difficulty. In an analogous manner the plan largely adopted of relieving the sewers of the pressure arising from the accumulation and decomposition by discharge-pipes carried up the sides of high buildings, would be deprived of the serious objection that the gases find their way by diffusion into the upper windows of dwelling-houses. The disposition of charcoal-beds in these pipes would render the gases less obnoxious when discharged. I also suggested on behalf of the men whose occupation compels them to enter the sewers that the effect of Dr. Stenhouse's charcoal respirator should be tried. Afterwards Letheby advocated the same plan. The difficulty appeared to be to secure the charcoal filtering apparatus from being choked up with mud I constructed a design which I believed would obviate this and other objections, so that the principle might be applied at a moderate cost to any gully under the street level, thus avoiding all obstruction to traffic —I am, Sirs, yours faithfully,

Feb 18th, 1899 ROBERT BARNES, M D Lond

"THE SURGICAL AID SOCIETY AND ITS METHODS"

To the Editors of THE LANCET

SIRS —With reference to Mr H Betham Robinson s letter under the above heading in THE LANCET of Feb 18th will you permit me to say that the letter in question was the first intimation I had had of any dissatisfaction in regard to the case to which he therein alludes, but I am now in correspondence with Mr Robinson and have no doubt that the explanation of the contingent circumstances will fully satisfy him as to the society s action? In the meantime, may I say for the information of your readers and in answer to the question asked by Mr Robinson that this society does as stated in its prospectuses and other publications, accept the certificate of any duly qualified surgeon and indeed, a form for that specific purpose is provided at the foot of each letter of recommendation for the benefit of patients who are unable to attend here It will however, be evident that this rule, like all others, is liable to exceptions under some special circumstances —I am, Sirs, yours faithfully,

RICHARD TRESIDDER Secretary

Salisbury square Fleet street E.C Feb 21st 1899

A MEMORIAL TO THE LATE PROFESSOR KANTHACK

To the Editors of THE LANCET

SIRS,—The premature death of Dr Kanthack has been so much felt by his numerous friends that we have received letters from many quarters suggesting the propriety of raising a fund to commemorate his work It is probably not generally known that, largely on account of his generous expenditure of money in his various researches, he had not been able during the few years in which he was in receipt of an adequate income to provide sufficiently for his widow

It is therefore proposed to raise a fund the interest of which shall be devoted to the use of Mrs Kanthack during her life whilst the capital amount can eventually be employed in founding some permanent memorial to the late Dr Kanthack All who desire to contribute to the fund are requested to send subscriptions to *Dr Drysdale*, 25, Welbeck street London, W

We remain, Sirs, yours truly

HENRY T BUTLIN
ANTHONY A BOWLBY
J H DRYSDALE

"REGINA v REICHARDT"

To the Editors of THE LANCET

SIRS —Once more the vexed question of certification or no certification in early stages of actual or threatened mental alienation has forced itself upon the public attention and it seems, in view of a forthcoming amendment of the Lunacy Acts, as if the present were a favourable time to endeavour to settle it once for all upon a practical, common sense, and definite basis There are, of course a considerable proportion of the cases of mental disorder constantly arising in which even from the commencement the morbid manifestations are of so pronounced a character that doubt does not for one moment arise regarding the proper course to be adopted, with such cases I do not propose here to deal—they do not come within the scope of the present communication The Lunacy Act 1890 although by no means a perfect Act in every respect, amply and intelligibly provides for dealing with them It is, however an altogether different matter when cases presenting less marked or pronounced symptoms occur in private practice The ordinary medical attendant may well be at a loss to decide exactly what is best to be done to ensure his patients well being and safety consistently with the required non publicity usually a first consideration with families under such circumstances Naturally however, he proceeds to do all that he considers necessary for his patient he may even feel obliged to turn the house temporarily into a kind of asylum, and by placing a sufficient number of attendants or nurses at once entirely deprive the patient of his liberty and ensure his safety. Yet under such circumstances I do not think the necessity for certification or notification would be suggested by anyone But sooner or later a time probably comes when change from home surroundings is considered a necessity and then the conditions become entirely altered, the question not only of deprivation of liberty, more or less complete, but also of pecuniary payment for services rendered to the patient arises and I think it is worthy of discussion whether from the moment it is decided to remove a patient from home care to the care of others, be they medical or other custodians, for payment that there should arise the necessity of some notification of the fact to a central authority, just as in all cases of admission to asylums public or private and hospitals such notification is required to be made within 24 hours

In the absence of some such provision no opportunity is given for adequate supervision of the many hundreds of cases scattered throughout the country in unrecognised confinement, and ample opportunity is thus afforded for abuses, against which the Lunacy Acts, however stringently they may be framed, afford no protection,

I am Sirs, yours faithfully,

Feb 14th 1899 M D.

THE ACCURACY OF THE MEDICAL REGISTER

To the Editors of THE LANCET.

SIRS,—I have received a card requesting my interest on behalf of the widow of the late Frederick W Wilson M B Lond who died at Blackheath in 1894 This name appears not only in Churchill s Directory for 1899 but in the Medical Register for 1898 published more than three years after the death of Dr Wilson I was under the impression that it was part of the duty of a registrar of deaths to send information to the registrar of the General Medical Council of the death of a medical practitioner registered by him The name does not appear in the general register of the University of London Why should it be retained in the Medical Register?—I am Sirs, yours faithfully,

Feb 20th 1899 M R C S, L S A

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT)

Examples of Immunity from Plague —The Progress of the Epidemic —The Plague Commission —A Proposed International Sanitary League —Inoculation for Typhoid Fever

EUROPEANS have the reputation of a partial immunity from plague This seems to be borne out not only with regard to liability to infection but also with regard to their better chances of recovery Quite apart from racial differences two other classes in Bombay have shown a remarkable immunity during the successive epidemics These are the prostitutes and the street-sweepers *The former are chiefly resident in one* of the most crowded quarters of Bombay and they consist of various races and nationalities In the absence of any register it is impossible to give the precise numbers, but they are placed by those conversant with the district at between 6000 and 7000 Only one case of plague is said to have occurred among them The medical officers and visiting justices actively engaged in searching for cases of plague found none among this class These people come from various parts of India from Bagdad, from Constantinople from Persia from Japan and from South-eastern Europe It is not very clear to what they owe their apparent immunity The houses in which they live are described for the most part as clean well lighted, and well ventilated the doors and windows being kept open till the small hours of the morning This alone, however, is not sufficient to account for the occupants escaping infection, because it is said that in the neighbouring streets as many as 27 bodies of the victims of the epidemic have been taken out of a few houses in one morning

On the other hand, the clean, well-ventilated houses of the richer and more advanced natives have also escaped. It has been suggested that plague is innocuous in the presence of certain other diseases, such as leprosy and syphilis. This is not absolute as regards leprosy because lepers have been recorded as dying from plague. Whether persons suffering from syphilis are exempt from plague is not known. I know of no observations indicating this. One would hardly suppose that syphilis would give a life-long protection against plague even if it had this effect during its primary and secondary stages. That syphilis is very common amongst prostitutes in Bombay is admitted, and it is possible that an individual protection of this character combined with the more sanitary conditions of existence might account for the extraordinary exemption. At one time it was thought that it was not the syphilitic poison which protected against plague but the saturation of the system with mercury and on this basis many plague patients were treated almost to salivation. No beneficial results followed from this line of treatment even when employed hypodermically as well as locally. It is curious to note that at the time of the plague in the sixth century at Constantinople the wicked and the profligate were reported to escape from the ravages of that epidemic.

The other class—viz., the street-sweepers—has had a partial immunity from plague. These people with their families number over 1000. They live in small rooms and are very crowded. Their occupations, however, keep them out of doors. In the three years of the plague the number attacked has only been 21 and of these eight recovered. They were not isolated or segregated as other people were for fear of a general strike amongst the whole class. They are as crowded and as dirty as other people and they live in a plague infected district.

Plague is apparently inclined at the moment to increase again in the north and in the centre of the Bombay Presidency and to disappear from the southern portions. The net result in the week's returns shows a slight increase. There have been 2388 cases and 1872 deaths. The total mortality in Bombay city from all causes for the week ending Jan. 31st was 1601. This is an increase of 153. In all probability 1000 of these deaths were due to plague, because the average weekly death-rate for Bombay is under 600. The deaths actually recorded as of plague were only 538, but little reliance can be placed on the number registered as plague although there were 140 more recorded than for the previous week. This outbreak appears to be about a fortnight later in the season than that of last year and the outbreak of 1897–98 was about six weeks later than the first outbreak of 1896–97. Reports from the hospitals in Bombay show that the type of the disease is now very virulent, that patients are left to the late stages before being brought to the hospital; and that a great many come in a moribund condition.

The death-rate in Madras city is again abnormally high, that for the past week being at the rate of 49·3 per 1000, as against an average of 36·8 per 1000. There is no plague.

There seems to be a likelihood of a recrudescence of the plague in Karachi. Cases have occasionally occurred ever since the last outbreak and Karachi has not been able to clear itself, but during the past week several cases have been heard of in different quarters of the city. Fear has again seized the inhabitants who are beginning to flee in large numbers. The possibility of the obnoxious plague restrictions being re-introduced has hastened the exodus.

The value of railway medical inspections as of port inspections seems to be chiefly in preventing sick people of all kinds from travelling. As regards plague 11 cases only were detected during the week at all the railway inspection stations in the Presidency, so that with respect to this disease all the trouble, expense, and inconvenience involved are not counter-balanced by important results.

The Plague Commission has been at work in Karachi and Cutch Mandvie and will take evidence again in Bombay before leaving for Europe. Very few facts of any importance are reported. Dr. McMullen attributed the recrudescence in Kotri during the cold weather to the bringing out of infected clothing stored away during the summer when the epidemic prevailed. Dr. Mackenzie said that malarial fever was generally common at Karachi but that during the plague visitation there had been a marked decline. Mr. V. E. Nazareth gave an account of the treatment by Roux's serum. He said that 47 persons were inoculated, of whom 25 recovered. It almost invariably failed in pneumonic cases. (The reports do not mention that these cases were picked out and that they were not taken as the consecutive admissions to the hospital.)

Prince Orbeliani, a Russian nobleman, proposes to establish an international sanitary league to supply a complete staff of bacteriologists, medical officers, chemists, and nurses (all of whom have gone through training in actual contact with epidemics) to deal with outbreaks in any country that may be affected. The prince sees no reason for counting absolutely on the supposed immunity of Europeans in the present day against plague which formerly carried off the populations of European cities by the hundred thousand. Large numbers of people in European countries, he argues, live in conditions almost as favourable to epidemics of plague as those that prevailed when London, Moscow, Marseilles, Milan, and Naples were scourged by it. In order to meet a danger which affects all countries alike in large measure it is suggested that the means of resistance should be placed on a better footing than now obtains. He argues that the danger threatening all countries ought to be encountered by the organised sanitary resources of all countries working together for the common safety.

Inoculation against typhoid fever seems so far to have been very successful. Professor Wright (Netley), one of the Plague Commissioners, inoculated a large number of soldiers at Rawal Pindi and in the course of a lecture he gave instances of its value. He reminded his audience that 1500 troops were attacked with it in India every year and that 300 died. He alluded to the Maidstone epidemic and stated that of the 200 nurses and attendants at the lunatic asylum 95 were inoculated, not one of whom took typhoid fever, while of the remainder who refused to be inoculated 19 suffered from the complaint and died. He instanced also eight young subalterns who went to Khartoum. Six of these were inoculated; the other two took their chance. Both of the latter were attacked with fever and one died; the six others remained well. The symptoms following inoculation were malaise and slight fever lasting generally not longer than 24 hours. 3000 troops have now been inoculated.

Feb. 4th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Death of Mr. W. T. Crabbe, F.R.C.S. Edin.

THE death of Mr. Crabbe, which took place on Feb. 13th, has caused a deep feeling of regret among a large number of people. Mr. Crabbe, who was 55 years of age, began his professional life with great promise. As a student at Edinburgh he gained a silver medal in physiology and a gold medal in medical jurisprudence, after which he became a Fellow of the Royal College of Surgeons, Edinburgh, and a Licentiate of the Royal College of Physicians, Edinburgh. With prospects of a successful career he devoted his talents to the cause of medical missionary work, and after experience in this direction at Edinburgh and at Aberdeen he was appointed superintendent of the Medical Mission at Birmingham in 1876. Here among the poorest and most destitute he laboured earnestly with unflagging zeal. Under the continued strain of over-pressing needs his health broke down in 1896, the symptoms being mainly referrible to the liver. A sea voyage and long change failed to restore him to his former energetic condition and though he worked assiduously with the same ardent spirit of devotion he suffered from another attack last December to which, in spite of the greatest care, he succumbed. His life leaves a record of a high sense of duty and an unselfish fidelity to the cause he had so much at heart. He leaves a widow and three sons, two of whom are medical men.

Health Visitors.

The Health Committee have issued an advertisement for the services of four women as health visitors for the city—their duties to comprise visiting from house to house in the poorest parts of the city, calling attention to the necessity for cleanliness of the house and its surroundings, giving advice as to the rearing of children and the nursing of the sick, distributing and explaining handbills on the prevention, &c., of infectious diseases, and reporting daily to the medical officer of health. They will be required to reside in or near the respective districts in which they work. Their age is not to exceed 35 years and their salary is to be 25s. a week with uniform. This is an opening which admits of much good being done among the poorer classes, but one which evidently will require much tact and discrimination in its pursuit. An intelligent knowledge of the duties to be performed and the power of explanation are not always to be readily found even among the educated classes. It is observable that in some of the advertisements the proposed *visitors* are called "women" and in some *others* "ladies"—a difficulty evidently presenting itself to the minds of those responsible for drawing up the notices.

The Inebriates Act.

The utility of the Act passed last session appears so far to be a dead letter. Cases are constantly occurring at the local police-courts which show that an institution for the reform of this vicious habit is strongly needed. The statute empowers magistrates to send habitual drunkards after a certain number of convictions to an inebriate reformatory where they may be kept for any period up to three years. At present the authorities have provided no places of the kind, nor has any step been taken by individual or combined enterprise for this salutary object. Careful and unprejudiced consideration would show the great advantage of these powers duly exercised. A vast gain to the community would result from the deprivation of the opportunities for recurring drunkenness with all the train of moral and social evils which surround the victims of repeated indulgence.

Health Lectures.

Under the auspices of the Athletic Institute a grand opportunity for advertising is offered. What more attractive headings could be placarded about the town than the following with the names and titles of the lecturers in full: "The Foot and its Covering"; "Sudden Illness—what to do"; "Some Points in the Structure and Care of our Eyes, Ears, and Teeth"; "On Elementary Nursing"? Truly it may be said, "Which of our learned with all his lore hath leisure to be wise?" Advice gratis is the next consideration and the value will be accordingly; in the meantime the public are to be educated to get good for nothing.

Feb. 21st.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Annual Meeting of the Manchester Royal Infirmary.

AT the annual meeting of the Manchester Royal Infirmary held on Feb. 10th one sentence in the report gave rise to some rather animated discussion. It was to the effect that the strain on the resources of the institution had "been less than in some preceding years and with but few exceptions applications for admission and accommodation of patients have been readily met." It is curious that the gentleman who seconded the adoption of the report seemed to prove conclusively that the statement was inaccurate and misleading. Dr. Leech moved that it should be omitted and said he could not help feeling that it "would never have appeared had a representative of the acting medical staff been present when the report was drawn up." It shows very prettily how untrustworthy figures are without explanations that will show their true bearings. In the book in which cases "deferred" for want of room are kept 1029 are entered for 1896, 250 for 1897, and only 57 in 1898, but the report did not state that this fall in the numbers arose from a change in the mode of classification and from the great use made of the Cheadle Convalescent Hospital as a sort of "relief train." In truth, the Cheadle Hospital is, from the strain on the infirmary, in danger of becoming more and more an "overflow" than a convalescent hospital, as patients are often sent there when it would be better to keep them longer in Piccadilly. Dr. Leech gave several instances where urgent cases had to be sent away for want of beds. Mr. Thomas Jones, professor of surgery, seconded the amendment and said that those who worked within the infirmary knew the great pressure to which the accommodation was subjected. Patients had to be sent to Cheadle where they had not the requisite nursing staff who ought to remain at the infirmary. Dr. Renaud said the board asked him to draw up the preface to the report and he was responsible for the statement which had received the sanction of his colleagues, referring of course to his lay and not his medical colleagues, for he is still one of the consulting physicians. Dr. Harris, in supporting the amendment, said that it was a notable thing that 14 of the active staff should agree that the paragraph objected to was misleading. The amendment was agreed to. The matter is chiefly of importance as showing how injuriously the present state of things is affecting the infirmary as an agency for the relief of human suffering. The negotiations with the corporation are hanging fire. One of the gentlemen present urged that they should be pushed on and that the board should say what they are willing to accept for the site and the corporation would then say whether or not they were prepared to pay it. If nothing is done the present deadlock will soon become a scandal.

Manchester and Salford Sanitary Association.

The annual meeting of the Manchester and Salford Sanitary Association was held on Feb. 13th and the work of the year reviewed. Having no executive power the association can only work by educating and influencing public opinion and—let it be said with all humility—by bringing similar influences in regard to public health to bear on the city council. It has to be acknowledged that hitherto it has been labour in vain so far as cottage baths are concerned. This question has for several years been brought before the Baths Committee. The city has many public baths on a large scale so palatial, however, as to be deterrent to poor women who would gladly wash themselves and their children in a cottage. It would cost little and do much good to provide available means of removing from many of the fellow citizens of the Baths Committee the reproach and offensiveness of personal filth. But the average city councillor loves to do *some great thing*. Miles Platting and Ancoats have long been distinguished as the special home of bad smells and in consequence of representations from these districts a joint *deputation* waited on the Sanitary Committee of the corporation and were told that efforts were being made to correct these nuisances which, besides being disgusting, are often distinctly injurious to health. The association did not approve of the action of the corporation in one case of complaints of bad smells from sewers "in sealing up six of the manholes and thus leaving nearly two-thirds of a mile of sewer highly charged with naphthalene, benzol, &c., without any ventilation whatever." Arising out of these nuisances from works dealing largely with gas by-products the question is being discussed of these being dealt with by the corporation itself, with the twofold object of profit to the ratepayers and a guarantee of having the work carried on in the least offensive way. Much interest has been taken in the question of lamp accidents and the investigations of Mr. William Thomson, F.C.S., carried on for about two years, resulted in a strong expression of opinion that the flashing-point of the oil should be raised. It would no doubt still be desirable to prevent the use of dangerous and ill-constructed lamps. It may fairly be said that the association has often been in advance of public opinion and in nothing perhaps is this more clearly shown than in the "campaign against phthisis" which has been carried on for many years, long indeed before it became popularised and fashionable. The corporations of Manchester and Salford have been urged to make provision "for the more effective treatment of consumptive patients in suitable premises." It is in contemplation to arrange for a general conference on the subject to which all local authorities in the district and representatives of boards of guardians, hospitals, &c., will be invited. The association is also giving its support to the efforts of the corporation to prevent the sale of milk containing the tubercle bacillus. The long-continued struggle with the smoke nuisance still goes on and in Manchester with some little success, but Salford continues a gross offender which is rather hard on Manchester as the prevailing winds bring the smoke across the narrow boundary of the Irwell, which, by the way, is still as black as the smoke which passes over it. An appeal for funds ought not to be necessary but it is so, though most of the work is done without fee or reward, if "the modest standing expenses" are to be met, for Manchester owes much to the association.

Prevention of Tuberculosis.

At a meeting of the North-Western Branch of the Incorporated Society of Medical Officers of Health held in Manchester on Feb. 10th, Professor Delépine read a paper on the Prevention of Tuberculosis, which was followed by a discussion. He urged the "notification of the occurrence of tuberculosis—more especially of the most infectious form, phthisis—in the same way as other contagious maladies were notified." He considered "the establishment of sanatoria for the treatment of consumptives was a wrong measure because it passed over the most important preliminary step by which the sources of infection should be discovered." This statement, as reported, has led to some misapprehension which possibly would have been avoided if notification had been spoken of as a necessary first step. There was an almost unanimous agreement as to notification, in favour of which Dr. Niven (Manchester) spoke strongly, followed by Dr. Howarth (Darwen), Dr. Wheatley (Blackburn), Mr. Vacher (Cheshire), Mr. Berry (Wigan), and Dr. Hayward (Haydock). A resolution in favour of notification as a necessary preliminary to further action was carried after further discussion, the chairman only, Mr. Pilkington of Preston, voting against it. He thought the expense would be prohibitive, that "the disease ran too long a course, and it would not be possible to shut up phthisical persons who needed to be out-of-doors." While admitting the desirability of all necessary precautions against the spread of tuberculosis by the disinfection of rooms and houses and by proper and scrupulous care on the part of the patients it must be acknowledged that here compulsory notification is by no means so simple as in the case of small-pox. The chairman illustrated the sort of difficulty that would be met with by saying that "notification suggested a state of things in which a man with tuberculosis would not be able to cough in public without first ringing a bell." But some of the more ardent spirits would object entirely to his appearance in public.

Feb. 22nd.

SCOTLAND.

(From our own Correspondents.)

The Death of Professor Rutherford.

The death of Professor Rutherford, which occurred on Tuesday last, has cast a shadow over the University. At a meeting of the students a resolution has been passed expressing their sense of the deep loss sustained by them in the death of their distinguished teacher, and it was resolved to place a bust of Professor Rutherford in the physiology class-room.

Edinburgh University Court and the Lectureship on Tropical Diseases.

At the meeting of the Edinburgh University Court held on Feb. 13th the Court resolved to invite applications by advertisements for the office of lecturer on tropical diseases and remitted to a committee to consider and report as to the qualifications of the candidates, the first appointment to be for a period of three years which may be renewed. The following are the regulations pertaining to the lectureship: "1. The course of instruction shall extend over not less than 20 or more than 25 lectures and shall consist of lectures and demonstrations and other practical work, the number of meetings for each to be arranged by the Senatus. 2. The class fee for the course shall be £2 2*s.*, with an entrance fee of 5*s.* in the case of non-matriculated students. 3. Two such courses shall be given in each year, one in the winter and the other in the summer session, should a course in each session be required. 4. Each course of instruction shall be open to (*a*) qualified medical practitioners; (*b*) students who have completed the curriculum for the final examination in medicine of any of the qualifying medical authorities; and (*c*) others especially interested in the subject. 5. Certificates of attendance will be granted as follows: (*a*) a class certificate to each member of the class who has performed the work of the class in a satisfactory manner; (*b*) a University certificate to be signed by the Dean of the Faculty of Medicine to each member of the class who has attended a course of instruction on practical bacteriology, including the micro-organisms of tropical diseases, who has also attended the course of instruction in tropical diseases, and who has performed the work of both of these classes in a satisfactory manner. This certificate shall be based on evidence received from the teachers on practical bacteriology and tropical diseases." Applicants are required to lodge 20 copies of their application and 20 copies of their testimonials with the secretary of the University Court not later than March 6th. One copy of the application should be signed. At the same meeting the court recognised as extra-academical teachers whose courses of instruction qualify for graduation in medicine in the University, the following lecturers: (1) Professor W. E. F. Thomson, Anderson's College Medical School, Glasgow (Physiology); and (2) John Macpherson, M.D. Edin, Larbert (Mental Diseases).

Edinburgh Town Council and the Milk-supply.

The Public Health Committee of the Edinburgh Town Council on Feb. 14th, on a motion by Baillie Pollard, resolved unanimously to recommend the magistrates and council that it should be especially stipulated in the contracts for the supply of milk to the various city departments: "That cows from which milk is taken for the contract supplies shall have withstood the tuberculin test applied by a qualified veterinary inspector approved by the Town Council."

Edinburgh Ear, Eye, and Throat Infirmary.

At the annual meeting of the Edinburgh Ear, Eye, and Throat Infirmary held on Feb. 15th the report announced the resignation of Dr. Kirk Duncanson, the senior medical officer. Dr. Duncanson's connexion with the infirmary dated from 1870 and from 1875 till 1883 he conducted the Ear Dispensary at his own expense. The report also stated that the total number of patients treated during the year was 2509, an increase of 194 over the number for the previous year.

Edinburgh Parish Council and Phthisical Patients.

The Edinburgh Parish Council, like the Town Council, is engaged in considering the question of arrangements in connexion with phthisical patients. While the Town Council has to concern itself more with prevention of consumption the Parish Council has to consider the question of accommodation, &c., for those who have fallen on its hands for relief when incapacitated by the disease. No less than 38·9 of the deaths from phthisis in Edinburgh take place among persons living in houses under £10 rental, so that a large number of those dependent on the parish are placed in that position directly or indirectly from the effects of this disease. The Council are considering the question of building separate wards for phthisical patients in connexion with one or other of the poor-houses. A site to the west of Craiglockhart poor-house is considered to be the most suitable one in the event of the Council deciding to erect such wards.

Royal Edinburgh Hospital for Sick Children.

The fortieth annual meeting of the contributors to the Sick Children's Hospital was held on Feb. 20th. The report showed an increase in both out-patients and in-patients, this being especially seen in the case of the out-patients, of whom 700 more new cases had been treated than in the previous year. The necessity for providing further accommodation in the out-patient department is still engaging the attention of the directors. A new surgical ward had been opened during the year. The report of the medical staff showed that about one-third of the in-patients were under two years of age and the staff were of opinion that on this account an increase in the nursing staff was justified. One-third of the total mortality was due to tuberculosis in one form or another. The chairman in moving the adoption of the report mentioned that the cost per child in the institution this year had been £4 17*s.* 1*d.*, as against £5 0*s.* 4*d.* in the preceding year. They were not in that country, as in England, troubled with conscientious objectors, there having been an increase of about 50 per cent. in the number of vaccinations.

Memorial to Professor Coats.

A fortnight ago, as was announced in The Lancet, a meeting was held at which it was resolved to raise a fund for a memorial to the late Professor Coats. A proposal was then adopted that it should take the form of a University prize or scholarship in connexion with pathology. To carry out this a sum of at least £1200 will be required. Circulars are being issued calling for subscriptions, but as many of Dr. Coats's friends and former pupils, who are widely scattered, may not be reached in this way, those who are managing the fund desire to intimate that contributions will be received and acknowledged by Dr. David Newman, honorary secretary, 18, Woodside-place, Glasgow, or Mr. James J. MacLehose, honorary treasurer, 61, St. Vincent-street, Glasgow.

University of Glasgow.

The open university lecture on Feb. 20th was delivered by Dr. John Glaister, Professor of Forensic Medicine, the subject being "Microbes." The lecture was largely attended and was abundantly illustrated by lantern slides, culture preparations, and other specimens. In the course of his remarks Professor Glaister referred to the present day crusade against tuberculosis, and expressed the opinion that much good would result from it provided the effort was a continuous one and was linked with practical methods. Among the conditions to be demanded he included the extermination of tuberculous milch cows from herds the milk of which was used as food by man and especially by children; the education of the public to the fact that by the boiling or sterilisation of milk possibilities of harm from this source were much reduced; the compulsory inspection of meat; popular instruction on the essentially infective nature of tuberculosis and especially of the dangerous character of the expectoration of phthisical patients; and the efficient promotion of municipal and domestic sanitation.—The list of those on whom the Senatus proposes to confer honorary degrees at the April graduation has just been published. Amongst those who are to receive the degree of LL.D. is Mr. James Finlayson, M.D., Glasg., Lecturer on Clinical Medicine in the Glasgow Western Infirmary and Honorary Librarian to the Faculty of Physicians and Surgeons. Sir Henry Irving is to be honoured with the same distinction.

Medical Vacancies.

The position of visiting physician to the Glasgow Training Home for Nurses is vacant, Dr. T. K. Monro's term of office having expired.—The committee of the Royal Hospital for Sick Children have determined to appoint two additional extra physicians.

Memorial Window to Principal Caird.

At a meeting of the committee in charge of this memorial held in Glasgow on Feb. 13th it was decided that the window should be placed on the east side of the Bute Hall in Glasgow University directly opposite the McGrigor window. It was also decided that the design should consist of 12 figures arranged as follows: First row—Plato, Aristotle, Spinoza, Hegel; second row—Athanasius, Chrysostom, Augustine, Aquinas; third row (below the gallery)—symbolical figures representing Philosophia, Jurisprudentia, Medicina, Theologia. The total cost, including all expenses, will be fully £900. The subscriptions to date amounted to £833. Subscriptions of past students had been received from Newfoundland, Canada, South Africa, British East Africa, India, and the Argentine Republic. Those who still desire to contribute are requested to send their subscriptions as soon as possible to the honorary secretary, Mr. Archibald Craig, 156, St. Vincent-street, Glasgow.

University of Aberdeen.

The University Court has resolved to appoint a lecturer on tropical medicine, his remuneration to come from the fees. It is proposed that the course should consist of about 25 lectures as a preliminary for the curriculum in the London school.—Mr. Stout, Anderson lecturer on comparative psychology, will resign the lectureship at the close of the present session.—With reference to a memorial signed by 425 students requesting the Court to provide a gymnasium, the Court has expressed sympathy with the object and remitted the memorial to a committee with the view of taking the earliest opportunity of providing a gymnasium and to report.—In deference to the wishes of the University authorities the Secretary for Scotland has agreed to make no recommendation for a few weeks as to filling up the chair of Natural History vacant by the death of Professor H. A. Nicholson, the object of the delay being to allow opportunity for considering the possibility of separating the subjects of zoology and geology.

Public Health in Aberdeen.

Practically all the local authorities in Aberdeenshire and Kincardineshire and several in Banffshire and Nairnshire have agreed to join in the arrangement recently made between the Aberdeen Town Council and Professor Hamilton, Aberdeen University, for the conducting of bacteriological investigations in connexion with infectious diseases. On the suggestion of Professor Matthew Hay, M.D. Edin., city medical officer of health, the Aberdeen Town Council has remitted to its public health committee to report as to the town council taking the initiative for providing a sanatorium or hospital for the treatment of cases of phthisis. Professor Hay reports that the epidemic of measles in Aberdeen attained "leviathan" proportions in January of this year, when 1647 cases were reported or discovered, but although school attendance was greatly interfered with the mortality was exceptionally low, there being only 25 deaths. Typhoid fever is rapidly declining. Last week 628 cases in all of zymotic diseases were recorded.

Feb. 22nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Intermediate Education Commission.

Dr. Lombe Atthill and Sir William Thomson were examined before the Commissioners on Feb. 18th, the Lord Chief Baron filling the chair. Dr. Atthill said that he had been deputed on the part of the Royal College of Physicians of Ireland to ask that the examination of the standard required by the General Medical Council should be held not less than twice a year and if possible three times; moreover, that these examinations should be open to all candidates between the ages of 16 and 40 years. Sir William Thomson said the chief difficulty was in the fact that only one examination in the year was at present provided, though the General Medical Council accepted the junior certificate of the intermediate board as it stands.

Royal College of Surgeons in Ireland.

No less than 10 candidates for the primary grade of the Fellowship examination presented themselves on Feb. 20th.

The Open-air Treatment of Phthisis.

The public at Belfast are being educated as to the open-air treatment of phthisis in a very up-to-date manner, for on Feb. 20th a concert was given in Belfast (the Lord Mayor presiding) in aid of the expenses for the provision of shelters, &c., at the Forster Green Consumption Hospital, and the entertainment was varied by a series of limelight views of the open-air treatment at Nordrach, Falkenstein, Davos, Cromer, Bournemouth, and Belfast. A layman gave a description of the pictures and of the methods employed. There are at present 36 patients in the Fortbreda Consumption Hospital. They have there arranged to construct a verandah and the authorities of that institution are appealing to the public of Belfast to supply the necessary funds for shelters, each of which, it is estimated, will cost about £36.

Changes in Dundalk Poor-law Union.

The Local Government Board have sent down a sealed order in which, in opposition to the repeated expression of opinion of the board of guardians and the Dispensary Committee, the Louth Dispensary District is wiped out and its area divided between the adjacent districts of Dromiskin and Barronstown. The new Dromiskin District is about 10 miles from end to end and the people feel that the poor cannot be attended nearly so well as under the old dispensary system.

The Royal Medical Benevolent Fund.

Dr. Richard Purdon, the honorary secretary and treasurer of the Belfast and District Branch of the above fund, has sent out to all members of the profession an urgent appeal by order of the local committee urging the claims of the society. It is a pity that last year there were 118 members of the medical profession in Belfast and 113 in the country who have never subscribed anything to this, the only charity in connexion with the medical profession in Ireland, while, on the other hand, the central committee of the society gave last year £90 to the widows and orphans of deceased medical men. It is a fact, however much one may deplore it, that this society has never exactly "caught on" in Belfast and some members of the profession in Ulster think that if the society was a purely local one and freed from all centralisation in Dublin it might be more popular. The whole tendency of the day is towards decentralisation and this has its influence on medical matters as well as in affairs of State.

Gas Poisoning.

In a memoranda handed in by the Belfast coroner at a meeting of the Finance Committee of the corporation an important report appears from Dr. J. Lorrain Smith on the recent cases of gas-poisoning in Belfast. In this Dr. Smith says that the cases bring out conclusively for the first time on record the extreme importance of the secondary effects of gas-poisoning. The analysis shows that the amount of gas in the blood of one of the cases (a child) when death occurred was negligible and that death was due entirely to the effects on the heart and nervous system. These analyses will be published in full by Dr. Smith in the medical journals to direct the attention of medical men who may be called to treat such cases to this aspect of gas-poisoning. The blood of another case (a woman, aged 70 years) showed the pink tint of carbon monoxide hæmoglobin. On analysis by the carmine method it was found to be 57 per cent. saturated. The blood of one child, aged four years, was very slightly tinted and was not more than 5 per cent. saturated. Since the child was exposed to the same atmosphere as the adult it is clear that her blood was, at one time at least, as highly saturated as 57 per cent. The artificial respiration which was applied by the medical attendant sufficed to clear the carbon monoxide out of the blood. The child therefore died from what may be called secondary effects of gas-poisoning on the heart and nervous system in spite of the treatment by stimulants applied by the medical man. These researches of Dr. Lorrain Smith when fully published will be of the utmost importance both as to the effects and the best methods of treatment of gas-poisoning which since the introduction of the new "water gas" process is becoming so frequent.

The late Dr. W. C. Townsend.

At a general meeting of the medical profession of the city of Cork, held in the rooms of the Medical and Surgical Association, 118, Patrick-street, on Feb. 18th, it was proposed and carried unanimously:—

> That we beg to record our sorrow at the decease of Dr. William C. Townsend who filled a conspicuous, honourable, and successful position in our profession for over 50 years, and that we express our deep sympathy with all the members of his family in their sad bereavement.

Feb. 22nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Death of M. Félix Faure.

THE newspapers have of course been full of articles dealing with the death of the late President. One portion of the public which always considers that there must be something out of the common about the death of those in high places will not allow that the death was a natural one. They call to mind the fact that the President was not at the Elysée all the afternoon of his last day and that when he came back at six o'clock in the evening he complained of being in great pain. Others consider it remarkable that after the apoplectic stroke had taken place the President should have been quite clear both in his mind and his speech so that he conversed with those around him for at least half an hour before the end came. It is considered a very serious point that the embalming took place with extreme hurry—i.e., within 12 hours after death—so that any examination from a toxicological point of view was made impossible, supposing such had been called for by public opinion. The embalming, too, was carried out not by a professional embalmer, but by a medical friend who was also a relative of the President's son-in-law. To put an end to all these rumours a formal statement has been issued bearing the signatures of all the medical men who were present during the last moments of the President. These were Professor Potain, Professor Lannelongue, Dr. Bergeron of the Academy of Medicine, Dr. Cheurlot, and Dr. Humbert. In this statement the medical men certify that they were present from the very beginning of those symptoms which in the space of a few hours brought about a fatal termination. They also certify that they all recognised all the symptoms of a rapidly fatal cerebral hæmorrhage accompanied by facial paralysis and left hemiplegia.

A New Method of Purifying Air.

Your readers are already in possession of some of the facts relative to this matter dealing with the researches of M. Laborde and M. Jaubert.[1] At the meeting of the Academy of Sciences held on Feb. 6th, M. Degrez and M. Balthazard read a paper on the use of sodium peroxide in the purification of air. This substance in the presence of water decomposes into sodium hydrate, oxygen, and peroxide of hydrogen. Accordingly M. Degrez and M. Balthazard conceived the idea of utilising for purposes of respiration not only the oxygen, but also the alkali which is produced together with the oxygen. If an animal is supplied with oxygen by means of sodium peroxide the decomposition of this substance produces more alkali than the equivalent necessary to absorb all the carbon dioxide elaborated. If a guinea-pig be placed under a bell-jar made air-tight and supplied with oxygen by means of sodium peroxide it will be found to be perfectly well at the end of four hours, while a control guinea-pig placed in a bell-jar similarly sealed but without the sodium dioxide will die asphyxiated at the end of two hours. The amount of watery vapour in the air expired by the animal is quite enough to bring about the reaction. The sodium peroxide is only attacked very superficially under such conditions and the survival of animals in this test is to be explained rather by the absorption of the carbon dioxide than by a sufficient supply of oxygen.

The Deceptive Remissions of Appendicitis.

At the discussion recently held on the subject of appendicitis at the Academy of Medicine M. Dieulafoy read a paper of which the following conclusions are the pith. 1. The acute symptoms of appendicitis—the abdominal pain, the vomiting and the pyrexia—are sometimes followed by a marked remission, the pain disappearing, the temperature falling, and the patient feeling much better. 2. This remission and defervescence are not always significant of a real improvement in the condition; sometimes they mark a false remission, a deceitful and treacherous calm. 3. It is important to note that this deceptive calm often coincides with the occurrence of very grave lesions, such as gangrene of the appendix, septic infection of the peritoneum, and diffuse peritonitis. 4. The remissions are never complete, for if the case be closely observed it will be seen that the course of events differs from a real improvement by the persistence of some of the symptoms. Thus the abdomen remains tympanitic, the muscular rigidity continues, and the quick pulse-rate persists although the temperature falls. Urobilinuria and albuminuria are by no means uncommon. 5. Such deceptive remissions are sometimes brought about by drugs, especially by the use of morphia or the application of ice bags which mask the onset of danger signal symptoms. 6. This deceptive remission supervenes at various times from as early as the second day to as late as the fourth or sixth days. 7. Such remissions, coinciding as they do with the onset of the gravest peritoneal lesions, show once more the inaccuracy of drawing a sharply defined line between the condition of appendicitis and that of peritonitis. Such views give rise to the most serious errors, for the symptoms of appendicitis and peritonitis are very similar—are, in fact, so interwoven and bound up together that it is impossible to say at what particular moment peritonitis commences. 8. These deceptive remissions are the most potent cause of death from appendicitis. A temporising physician or surgeon seizes upon one of these intervals of calm as a reason for putting off surgical interference; soon, however, some terrible complication supervenes against which surgery is powerless and the patient dies. 9. It is of the first importance to distrust these treacherous calms, to remember their existence, and to operate without delay if it is desired to save the patient from death.

Feb. 21st.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Relations between the Stomach and Drugs.

AN interesting study of the relations between the stomach and chemical compounds has been published in the *Münchener Medicinische Wochenschrift*. The stomach, it is pointed out, is liable to be injured by certain drugs whilst other chemical substances are altered by the gastric juice. The absorbing power of the stomach being very limited compared with that of the intestines it is desirable to make a drug pass as quickly as possible from the stomach into the intestines if it is to be absorbed within a short time. Pure water leaves the stomach more quickly than other substances; 500 grammes (17½ fluid ounces) of water leave the stomach within half an hour and 200 grammes within 15 minutes. The gastric juice is not increased by it. Other fluids, such as acid solutions, soup, milk, beer, and especially oil, remain much longer in the stomach and make the gastric juice increase. Water taken after or together with solid food leaves the stomach more slowly than when taken on an empty stomach. If these facts are applied to the administration of drugs it will be found that they leave the stomach in the following order: first when given on an empty stomach with water; then with soup, milk, or oil; then with water after meals; and, finally, without any fluid after meals. These facts were verified by experiments performed with salicylate of soda, iodide of potassium, and charcoal powder. Therefore if a quick absorption and a strong action of a remedy are desired it must be given with water on an empty stomach. A narcotic, antipyretic, or antineuralgic remedy given in this way will act more powerfully than when taken after meals. It has for a long time been known empirically that a given quantity of either beer or wine is more intoxicating when taken on an empty stomach than when taken after food. Another important question is that of the precautions which have to be taken in order that the stomach may not be injured by the administration of drugs. Some medicines, for instance, may be given by the rectum. Certain drugs which are insoluble in the gastric juice are dissolved in the intestines by the pancreatic fluid. This is the case with salol, tannalbin, dermatol, &c. Professor Unna has suggested the giving of drugs in the form of pills coated with a substance soluble in the intestines only; substances of this kind are keratin and the glutoid capsules invented by Professor Sahli. Mucilaginous substances, such as salep, water-gruel, &c., are empirically known to be very bland for the stomach; it is therefore advisable to use them as vehicles for the administration of irritating medicaments. The best way, however, to spare the stomach is to cause the drugs to pass as quickly as possible into the intestines as explained above. All these statements apply only to a stomach the motor function of which is normal; in gastric atony or in pyloric stenosis no medicines must be given by the stomach, but only by the rectum or subcutaneously. As alcohol has been found to increase absorption by the stomach alcoholic solutions may be useful where the rectal or subcutaneous methods are not available.

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[1] THE LANCET, Feb. 4th, p. 341.

Argil as a Dressing for Wounds.

Argil is an earthy or clayey product which was largely used in ancient surgery and has again been recommended for the dressing of wounds. Dr. Stumpf of Werneck states in the *Münchener Medicinische Wochenschrift* that it has a strong deodorising and desiccating action and is therefore valuable for the dressing of ulcers with copious fœtid discharge. It has also been found to answer very well as a dressing for recent wounds, for under it they healed without any reaction. Dead bodies could be preserved by putting them in argil dried by heat. The above statements have been verified by Dr. Langemak of the Kaiserswerth Hospital, who points out that argil has several advantages compared with other powders used for dressing. It is very cheap, the price being 10 pfennigs for 500 grammes or about 1½*d.* a pound; it is harmless, so that it may be used in unlimited quantity; and it is not irritating. Its deodorising power is very remarkable and its desiccating action is so strong that crusts are sometimes formed which retard the process of healing. In this case the application of argil ointment is advisable. In eczema a paste composed of argil, glycerine, and vaseline has proved useful.

Chancre on the Sole of the Foot.

At a recent meeting of the Berlin Medical Society Professor Lesser showed a woman, 28 years of age, suffering from a primary chancre on the sole of the foot. In October she was troubled with itching of the sole so that she could not refrain from scratching it. In November a small ulcer made its appearance and in December two large holes formed. On Jan. 4th symptoms of general syphilis were recognised and she was accordingly admitted into the Charité Hospital under the care of Professor Lesser. At that time there was recent roseola over the whole body, together with a papular eruption of the vulva and the anus, and general glandular enlargement especially of the right femoral and inguinal glands. The ulceration of the sole, extending to the fourth and fifth toes, was so deep that the tendons were visible. There was a reddish watery discharge accompanied by only a small amount of suppuration. Another ulcer of somewhat smaller size was found on the plantar side of the great toes. As the roseolar eruption was not preceded by any other ulceration there is little doubt but that this had been a primary chancre. The mode of infection could not be ascertained. The patient being a laundress had sometimes to work among the linen of sick persons. She may perhaps have got some particles of syphilitic virus from the linen on her finger-nails and by scratching may have conveyed the virus to the sole of the foot. Only four cases of primary chancre of the sole of the foot have hitherto been recorded in medical literature.

Feb. 20th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The Misericordia.

WHEN the "Romance of Outdoor Relief" comes to be written it will owe some of its most touching, most picturesque, chapters to the Misericordia—a brotherhood peculiar to Tuscany, seen at its best in Florence, though also admirably *en évidence* at Siena, Pisa, Leghorn, and Lucca, and not unworthily represented in the minor provincial towns, inland or maritime. Ecclesiastical in origin, it was founded in 1244 by Pietro di Luca Borsi and its *personnel* is drawn from every social rank, all and individually bound to serve whenever summoned, without fee or reward. The Grand Duke himself, when presiding at a State banquet in the Pitti Palace, has had to rise and leave his guests when his turn came and to bear a hand with tradesmen, nobles, mechanics, professional men—with the company, in fact, promiscuously improvised to transport to hospital some victim of an accident or to carry a patient from the sick bed to the suburban lodging indicated by the physician. The service is not one of "unskilled labour." The members of the brotherhood have all been previously trained to lift the sufferer from the street, to turn the patient in bed, and put him on the "bara" or stretcher with the minimum of pain or of risk to compromised limbs or organs, and thereafter to bear him through the thoroughfares to his destination with the least possible vibration, friction, or disturbance. As often happens, the particular company told off on sudden duty is composed of men as various in altitude as they are in social position, so that in carrying the "bara" shoulder high they employ for the first part of the journey those of them who are as nearly as possible of the same height, and when these are tired they lower their burden to the less tall without interruption of movement or alteration of pace and so continue the shifting process till the sufferer is at his journey's end and laid down in bed with scarcely the consciousness of having been transported at all. Few sights or sounds are more impressive in the Florence of to-day than the "measured march" of the Misericordia through its crowded streets, as robed in black gowns and hooded in black cowls with openings for the eyes the brotherhood wends its way with its burden, the bystander lifting his hat sympathetically, the traffic reverently falling aside, and the street noises subdued to a momentary hush in presence of

> "The still, sad music of humanity."

Queen Victoria, it is well known, took profound interest in the Misericordia during her successive sojourns in Florence, and one of its highest office-bearers, the late Cavaliere Cesare Barsi, was deputed by the Arci-Confraternità to visit the Villa Palmieri, there to set forth to Her Majesty its origin and constitution, the nature of its service, the resources at its command, and the more striking incidents in its experience. As I have said, the brotherhood is peculiar to Tuscany, though other cities have their equivalents, each in its own way rendering similar service; few if any of them, however, being able to point to the same antiquity of origin, to the same large resources, or to the same admirable discipline and organisation. I have been led to give this brief notice of the Misericordia from the funeral obsequies just celebrated in Florence of the Provveditore (or general provider and administrator) of the Brotherhood, Signor Giuseppe Bronzuoli—a singularly imposing and picturesque pageant composed of 300 members of the Arci-Confraternità, 50 "capi di guardia" (chiefs of the guard) and 35 priests. The procession included many citizens among whom were not a few surgeons and physicians, those of them who immediately followed the hearse bearing lighted torches.

"How Study is Rewarded in Italy."

Under this title ("Come si premia lo Studio in Italia") the organ of the ex-Premier, the Marchese di Rudini, comments bitterly on the "struggle for existence" maintained by science in general and medicine in particular in the Italian kingdom. Learned bodies and associations are not lacking, but (says the journal referred to, the *Opinione*) they are *either closed to the young investigator or are miserably* short of funds. When an able and accomplished nature-student has in the course of prolonged research alighted on some pregnant fact or struck out a promising line of discovery he gets no help from these institutions and is reduced to this dilemma—either to pay out of his own purse for the publication of his "findings" or if he is poor to let them lie dormant and (as often as not) see another get the start of him in giving them to the world. The *Opinione* proceeds to adduce a concrete instance. A young Italian nature-student four years ago completed an original series of investigations unique in value scientifically and practically. Not being rich enough to provide the illustrated plates which had to accompany his exposition he had to suspend publication entirely, a request for aid addressed to the Department of Public Instruction being met with the stereotyped "non possumus." All he could do to obviate being anticipated by contemporaries was to send to a periodical a "cenno sommario," as the *Opinione* calls it, of what he had discovered. This "cenno," continues the Roman journal, "fell under the eyes of a distinguished British anatomist who urged the author, unknown to him as he was, to publish his investigations *in extenso*. The author frankly communicated his story to the British anatomist, who immediately sent him a handsome donation of money, and when the work was in this way put into proper shape submitted it to the Royal Society of London which shortly published it. Thus," adds the *Opinione*, "the researches of the young Italian nature-student have at length seen the light in Italy, written in Italian, and illustrated by magnificent plates, only through the private subsidy of a learned Briton and through the intervention of a foreign society! In what country except Italy, it asks, does such an incident occur? Germany fits out scientific commissions and sends them all the world over to study malaria. We," adds the *Opinione* sardonically, "religiously preserve malaria and pellagra for our posterity to suffer from and for our foreign neighbours to study." Our contemporary's theme has, indeed, been often handled in these columns and we can well understand the mortification with which Italians apply to themselves the bitter saying of their great satirist, that among the stings of poverty there is none more galling than that it makes its victim ridiculous in the eyes of the world:

"Nil habet infelix paupertas durius in se,
Quam quod ridiculos homines facit."

Feb. 18th.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—In February the following candidates passed in the subjects indicated:—

Surgery.—A. E. Malaher, St. Thomas's Hospital; R. R. Mowll (Section II.), King's College Hospital; C. A. O. Salmon, Guy's Hospital; E. C. Thomas, London Hospital; and R. Le G. Worsley (Section I.), St. George's Hospital and Durham University.

Medicine.—P. A. Chillcott, London Hospital; C. J. Coleman, Cambridge University and Birmingham; F. Dengler (Sections I. and II.), Munich; J. Gallagher, Bombay; E. MacD. Judge, Guy's Hospital; L. Lehmann, Strassburg and Leipsic; R. R. Mowll (Section II.), King's College Hospital; B. J. Nolan, Dublin; E. C. Thomas, London Hospital; and D. O. Williams, Leeds.

Forensic Medicine.—P. A. Chillcott, London Hospital; C. J. Coleman, Cambridge University and Birmingham; H. Cooper, Aberdeen; F. Dengler, Munich; J. Gallagher, Bombay; E. S. Johnson, St. Mary's Hospital; E. MacD. Judge, Guy's Hospital; L. Lehmann, Strassburg and Leipsic; P. Power, Cork and Edinburgh; S. A. Rowley, Bristol; E. C. Thomas, London Hospital; and D. O. Williams, Leeds.

Midwifery.—H. Clough, Leeds; H. Cooper, Aberdeen; F. Dengler, Munich; J. Gallagher, Bombay; E. S. Johnson, St. Mary's Hospital; V. S. Partridge, Charing Cross Hospital; J. W. Robertson, Kingston, Ontario; S. A. Rowley, Bristol; E. C. Scarlett, Royal Free Hospital; A. E. Shaw, Cambridge University and St. Thomas's Hospital; A. Y. St. Leger, Cambridge University and St. Mary's Hospital; E. C. Thomas, London Hospital; J. M. Twentyman, Cambridge University and King's College Hospital; D. O. Williams, Leeds; T. R. Wilshaw, Birmingham; and E. D. Wortley, St. Bartholomew's Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise Medicine, Surgery, and Midwifery:—Messrs. H. Clough, E. MacD. Judge, R. R. Mowll, A. E. Shaw, and E. C. Thomas.

FOREIGN UNIVERSITY INTELLIGENCE.—*Breslau*: Dr. Walther Kuemmel has been appointed Extraordinary Professor of Laryngology and Otology. *Cracow*: Dr. Odo Bujwid has been promoted to the chair of Bacteriology. *Gratz*: Dr. W. Prausnitz has been promoted to the chair of Hygiene. *Liége*: The new bacteriological institute has been publicly opened. *Naples*: Dr. G. Jacontini has been recognised as *privat-docent* of Medical Pathology. *Pavia*: Dr. Silva has been appointed to the chair of Medical Pathology; Dr. Rocci of Turin has been recognised as *privat-docent* of the same subject. *Prague (Bohemian University)*: Dr. Gustav Kunkel has been promoted to the chair of Hygiene.

UNIVERSITY OF BRUSSELS.—At the February examination the following practitioners were successful and obtained the M.D. degree:—John Q. Bown, Ashford; Charles Franks, Newark; W. J. Jenner, London; M. J. Morgan, Aberystwyth; Goone Tillike, Ceylon. There were 12 candidates, seven of whom failed.

DEATH-RATE OF DEVONPORT, PLYMOUTH, AND STONEHOUSE.—The death-rate in the above three towns during 1898 was at the rate of 17·4, 19·6, and 23·1 per 1000 respectively, the birth-rate being 30·4, 29·7, and 30·0 per 1000. The zymotic death-rate was 1·6 per 1000 in Devonport, 2·14 per 1000 in Plymouth, and 3·3 per 1000 in Stonehouse.

HOMŒOPATHIC VACCINATION.—In the course of his annual report Mr. Leah, the medical officer of health of Stonehouse, draws attention to the danger of inefficient vaccination which evades the law and gives no protection to the children. Mr. Leah adds that instead of making four scarifications the practice of the Homœopathic Hospital is to make only one puncture.

ROYAL EAR HOSPITAL.—A successful chamber concert was held at the King's Hall, Holborn, on Feb. 16th in aid of the new building fund of this hospital, the site of which has already been purchased. The hall was well filled and the following artistes volunteered and gave their services: Signor Carlo Ducci, Mr. C. Hayden-Coffin, Mr. Frank Bartlett, Mr. Hulbert Fulkerson, Madame Clara Dowle, Miss Mary Pearson, Miss Florence Lancaster, Miss Marie Bellas, Miss Beatrice Willey, and the Liedertafel quartette.

OPPOSITION TO THE VACCINATION ACT, 1898.—At the meeting of the St. Thomas's (Exeter) Board of Guardians held on Feb. 17th it was reported that Lord Poltimore had written stating that he had presented to the House of Lords the petition of the board in favour of the repeal of the Vaccination Act and his lordship added that he quite agreed with the guardians. Sir Stafford Northcote stated that he had presented a similar petition to the House of Commons and Mr. Seale-Hayne, M.P., wrote saying that he did not support the Vaccination Act of 1898, but until something had happened to give severe proof of its ill-effects it was premature to hope for further legislation on the subject in which sentiment appeared to be a more potent factor than reason.

BRITISH MEDICAL TEMPERANCE ASSOCIATION.—A meeting of this association was held on Feb. 17th, at the Conjoint Examination Hall, Victoria-embankment, when Captain P. W. O'Gorman, D.P.H., Indian Medical Service, read a paper on the Scientific Valuation of Alcohol in Health. Dr. Morton presided in the absence of the President, Professor Sims Woodhead, through illness. The conclusions of the lecturer were that alcohol did not act as a food, that it did not retard waste but was a protoplasmic or tissue poison, that it did not impart energy but was essentially a nerve paralyser, that it was dangerous both in hot and cold climates, and that it did not conduce to longevity. He pointed out that it reduced vascular tension and that Dr. Martin had shown that the strength of the heart contraction was diminished by alcohol. Dr. Ridge, in moving a vote of thanks to the lecturer, said that he hoped the paper would be published as he had found many medical men entirely ignorant of the immense number of facts which had accumulated proving the harm done by alcohol even in moderate doses and the advantages of total abstinence; these things were not taught in the usual way, but there was some hope for the future as there were between 300 and 400 medical students who were abstainers and belonged to the association. The vote was seconded by Dr. Claude Taylor and carried unanimously.

ROYAL COLLEGE OF SURGEONS IN IRELAND—DENTAL EXAMINATION.—The following gentlemen, having passed the necessary examination, have been admitted Licentiates in Dental Surgery of the College: Mr. A. T. Green (Belper, Derbyshire) and Mr. D. Saville (Leeds).

ACCIDENT TO A MEDICAL MAN.—On Feb. 14th Mr. R. Griffith, L.R.C.P., L.R.C.S. Edin., of Glyn Neath, Glamorganshire, was thrown from his horse and received a severe wound of the head with concussion of the brain.

MEDICAL MAGISTRATE.—Mr. J. R. Hughes, M.D. Edin., M.R.C.S. Eng., of Denbigh, coroner for West Denbighshire, has been appointed a magistrate for the borough of Denbigh.

THE RIGHTS OF MEDICAL MEN.—The Gosport magistrates have dismissed a police summons against a medical man who rode a bicycle on the footpath on the ground that a practitioner called to an urgent case has a legal right to take the shortest way.

THE Aylesbury Dairy Company have issued a circular entitled "Milk in Relation to Tuberculosis and other Diseases," which is designed to remove any anxiety in this connexion which may be present in the minds of their customers. The circular states briefly the precautions by medical inspection and regular analysis taken to ensure that only pure milk, free from all germs of disease and from adulteration, is supplied.

UNIVERSITY OF CAMBRIDGE.—At the congregation held on Feb. 16th the plans for the erection of the Sedgwick Memorial Museum, towards which £27,000 have been subscribed, were approved by the Senate. Mr. A. W. Hill of King's College has been appointed Demonstrator of Botany for five years. The degrees of M.B. and B.C. have been conferred on Mr. C. Powell, B.A., of Emmanuel College.

BOARDS OF GUARDIANS AND VACCINATION.—The Wellingborough Board of Guardians have failed to appoint a vaccination officer for the Higham Ferrers District and the Local Government Board has intimated that if this action is persisted in it will apply for a *mandamus*. The Board of Guardians, by a majority of six votes, determined to adhere to the resolution on the books. All the lady guardians voted for this course. All the clergy present except one voted against it.

THE CANCER HOSPITAL, BROMPTON.—The annual meeting of the governors of this charity was held in the board room of the hospital recently, Sir George S. Measom presiding. From the report of the committee it appeared that during the past year 2477 new patients were received, 835 being in- and 1642 out-patients, whilst the total number of attendances of out-patients was 13,803. Much regret was expressed at the untimely deaths of Mr. W. H. Hughes, secretary, and Mr. Edward Cotterell, an able and valued surgeon of the hospital for the past six years. The committee in their report regret that there has been a considerable falling off in donations and annual subscriptions during the past year. Mr. Fred W. Howell, of the York County Hospital, has been elected to the office of secretary, and Mr. C. Jarman has been appointed as assistant secretary of the hospital in appreciation of his services for 26 years. The meeting terminated with the usual votes of thanks.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Conscientious Objector.

ON Friday, Feb. 17th, Mr. BOULNOIS introduced into the House of Commons a Bill to repeal Section 2 (the conscientious objector section) of the Vaccination Act of last year. The hon. Member has put down the Bill for second reading on Wednesday, March 1st, when, however, there is little chance of it being reached having regard to the number and character of the measures in front of it.

Seats for Shop Assistants.

MR. SOUTTAR has introduced into the House of Commons a Bill to provide for seats being supplied for the use of shop assistants in Scotland.

The Law of Murder.

MR. W. AMBROSE has introduced into the House of Commons a Bill to amend the law of murder with reference to the doctrine of constructive criminal malice.

HOUSE OF COMMONS.

THURSDAY, FEB. 16TH.

The London Water Commission.

Mr. BALFOUR, in reply to Mr. James Stuart, said he was informed by the Chairman that the Royal Commissioners on the London Water question were at present unable to fix any date for the presentation of their second report, but there would be as little delay as possible after the taking of evidence was concluded.

Immoral Advertisements.

Mr. JOHN ELLIS asked the Home Secretary whether his attention had been directed to the case of three men of the name of Chrimes who were on Dec. 20th, 1898, sentenced to seven and 12 years' penal servitude for a widespread conspiracy to charge persons with having committed crimes with intent to extort money; whether the following rider of the jury had come under his notice: "The jury feel that such a vile plot even with all the ingenuity displayed in it, could only have been possible by the acceptance of such immoral advertisements by a section of the press, religious and secular, well knowing their nature. They further expressed their earnest conviction that means should be taken to suppress such advertisements and the institution from which they emanate, as they consider them direct incentives to ignorant and evil-minded women to commit crime"; and whether he saw his way to take any steps in the direction indicated.—Sir MATTHEW WHITE RIDLEY said: My attention has been called to this case and to the rider of the jury. In my opinion the question of dealing with indecent advertisements, either by amending the Indecent Advertisements Act or otherwise, is one deserving of serious consideration and I am giving my best attention to the subject.

Vaccination in the Civil Service.

Mr. BARTLEY asked the Secretary to the Treasury whether vaccination was required of all civil servants, including those young persons and others who are temporarily employed in the Post Office and other departments.—Mr. HANBURY said: All candidates for admission to the permanent Civil Service and all established workmen in the civil departments must show that they have been satisfactorily vaccinated, otherwise revaccination is required. Customs boatmen must have been vaccinated within seven years. In the case of persons temporarily employed each department is at liberty to fix its own requirements. In the Post Office service evidence of both primary and secondary vaccination is required before employment, whether permanent or temporary, and revaccination must have taken place within the preceding seven years. The only exceptions are (1) soldier candidates, in whose case vaccination is presumed, (2) sub-postmasters, and (3) persons casually employed for short periods.—Mr. JAMES LOWTHER: Are conscientious objections entertained?—Mr. HANBURY: I think not.

Hospital Provision for the Khartoum Expedition.

Captain NORTON asked the Under Secretary of State for War whether he could state if an application was made by the army medical authorities for a hospital ship in connexion with the Khartoum Expedition in sufficient time for it to have reached Alexandria before the arrival of the sick from the front.—Mr. WYNDHAM said that an application for a hospital ship was made by the principal medical officer in Egypt to the general officer commanding the army of occupation on June 27th. Both these officers were at that time in London. The general officer commanding sent forward the application unofficially, adding that if on arrival in Egypt he found it necessary he would again apply through Lord Cromer. Pending the receipt of such an official application the general officer commanding was given full powers to take up passages for the sick and wounded, together with their medical attendants, nurses, &c., on board the P. and O. and other passenger ships passing almost daily through the Suez Canal, supplementing in this manner the accommodation afforded by the two Government transports allotted to this service. On Sept. 14th the general officer commanding applied officially by telegraph for a hospital ship, but since it would have taken five weeks to fit out and transfer such a ship to Alexandria it was decided to adhere to the arrangements already made. 465 invalids were conveyed by six vessels between Sept. 20th and Oct. 30th and all arrived in England considerably sooner than would have been the case had a hospital ship been despatched.—Captain NORTON asked whether, in consequence, 60 or 70 officers and men were down in hospital at Alexandria with only two nurses to attend to them?—Mr. WYNDHAM: No complaint to that effect has reached us. But if what is alleged occurred it was not due to the non-employment of a special hospital ship. It may have been due to the accommodation at Cairo and Alexandria not being sufficient for an outbreak of enteric fever which took place during the end of the campaign.—Captain NORTON asked if the hon. gentleman would inquire why the wounded coming down from the front were not properly provided for.—No answer was given to this question.

Venereal Disease in the Army in India.

Major RASCH asked the Secretary of State for India whether he was aware that out of an actual strength of 16,600 British troops proceeding on service in the recent campaign on the North-west frontier 1500, or nearly 10 per cent., were incapacitated for service in the field by venereal disease, and whether the Government of India proposed to take any further steps to remedy this condition of affairs.—Lord GEORGE HAMILTON replied that the force from which the 16,600 British troops were drawn for service in the recent campaign consisted of 21,439 men. Of these 939 were rejected as unfit for service on account of venereal disease, while a further number of 492 were incapacitated during the campaign for the same reason. The total number of men known to have been thus disqualified for active service was therefore 1421, or nearly 7 per cent. on a total strength of 21,439. The Government of India were fully aware of the importance of this matter and had taken and were taking steps with the object of diminishing the prevalence of venereal disease am[illegible] country.

Vaccination in the Peabody Buildings.

Mr. Lough asked the Home Secretary whether his attention had been drawn to the fact that large numbers of the tenants in the buildings of the Peabody Trust in London had received notice to quit unless their children were vaccinated; and whether he would use his influence with the trustees to secure from them the same respect for the conscientious convictions of their tenants as was generally extended by the proposals in the Government Bill of last year.—Sir Matthew White Ridley replied: I was not aware of the incidents to which the hon. Member alludes but I think that it is a case in which it would be clearly improper for me to interfere.

Condition of the Underground Railways in London.

Mr. R. G. Webster asked the President of the Board of Trade whether his attention had been called to the discomfort travellers on those metropolitan underground railways worked by steam power had to suffer owing to the prevalence of noxious gases and sulphurous coal smoke; and if the companies could be compelled, by legislation or otherwise, to mitigate this nuisance to the travelling public.—Mr. Ritchie replied: In 1897 I appointed a committee to inquire into the system of ventilation of the tunnels of the Metropolitan Railway and the report of the committee and minutes of evidence were presented to this House in the same year. As recently as December last the managing director of the Metropolitan Railway informed the Board of Trade that the directors of that company, conjointly with the District Company, had secured the services of Sir J. Wolfe Barry and Mr. W. H. Preece, and instructed them to provide the necessary electric plant and appliances for the equipment of a section of the line for experimental working. I hope that these experiments may result in the adoption of some system of electric traction.

The Small-pox Epidemic in Middlesbrough.

Mr. Chaplin, in reply to Mr. Pickersgill, said that no inquiry in the ordinary sense of the term was made by the *Local Government Board* into the outbreak of small-pox in Middlesbrough in November, 1897—June, 1898, but when the disease began to spread a medical inspector was sent there by the Board to advise as to the best means of controlling the disease and of preventing its spread within the borough and to the neighbouring districts. No formal report was made to the Board, though they were furnished from time to time with memoranda as to the progress of the disease and the means of prevention that were being adopted. Under these circumstances the Board did not propose to issue any report on the outbreak, but he might mention that the Middlesbrough medical officer of health in July last issued a special report on vaccination and its relation to the recent epidemic of small-pox.

FRIDAY, FEB. 17TH.

Foreign Milk.

Mr. Warner asked the President of the Local Government Board if the Local Government Board could do anything to impose the same sanitary restrictions on foreign milk as are applied to British milk.—Mr. Chaplin replied: Foreign milk, as soon as it is imported, is subject to the same treatment as English milk. But the regulations which apply to dairies and cowsheds in this country generally and to the protection of milk therein cannot, of course, apply to dairies or cowsheds abroad. The matter, however, is of comparatively small importance, for while the consumption of milk is estimated at 600,000,000 gallons a year in this country 60,000 gallons only were imported for the ten months up to the end of January last and according to the latest returns the quantity is decreasing as compared with last year.

Tuberculosis in Cattle.

Mr. Warner asked the First Lord of the Treasury if he proposed to introduce any Bill for appointing Government inspectors to inspect and condemn cattle afflicted with tuberculosis, as uniform action all over the country was most desirable on this subject and as one private Bill had been introduced by a corporation to give its own inspectors these powers outside the municipal boundaries.—Mr. Walter Long, President of the Board of Agriculture, answered the question, saying: It is not the intention of the Government to appoint inspectors for the purpose suggested by the hon. gentleman, and as far as the legislation to which he referred is concerned, by which, I presume, he means private Bill legislation, of course those Bills come before the committees upstairs, and it is impossible to say what powers Parliament would grant to local authorities.

MONDAY, FEB. 20TH.

Lead Poisoning in the Potteries.

Mr. Holland asked the Home Secretary whether his attention had been called to the death of Jane Heath, a potters' colour mixer, from epilepsy, on Jan. 2nd last at Burslem, and to the fact that no inquest was held into the cause of her death; and whether he would suggest to the coroner for the district to order an inquest in every case of death where lead poisoning was suspected.—Sir Matthew White Ridley replied that he had made inquiry into this case and found that the death was duly reported to the coroner who, after consultation with the medical practitioner who had attended the deceased, accepted his opinion that death was not attributable to lead poisoning.

Vaccination Certificates.

Mr. Bartley asked the President of the Local Government Board whether anyone could be revaccinated by the public vaccinator free of charge, and whether a certificate of revaccination could be obtained free or at a small fee by anyone who wished for it after revaccination.—Mr. Chaplin replied: Any person who is not less than 10 years of age and has not been previously revaccinated within a period of 10 years may be revaccinated by the public vaccinator free of charge. In such a case it is the duty of the public vaccinator, if so required, to deliver to the person revaccinated a certificate of the result of the operation.

The Royal Army Medical Corps.

Sir Walter Foster asked the Under-Secretary of State for War whether, in view of the fact that the strength of the Royal Army Medical Corps detailed for duty during the late autumn manœuvres—viz., 23 officers and 215 men—was quite inadequate for an army of nearly 48,000 of all ranks and in view of Lord Wolseley's comment thereon that the medical staff requires augmentation, he could state from what source a sufficient number of medical officers, as laid down in mobilisation tables, is to be drawn for the two army corps declared by the Commander-in-Chief to be always ready for embarkation for field service abroad.—Mr. Wyndham replied: The strength of the Royal Army Medical Corps employed at the manœuvres was 68 officers and 312 men and not 23 officers and 215 men as stated in the question. The 224 officers required for two army corps can be provided from existing home establishments. There would be no justification for withdrawing 224 medical officers from their normal duties for manœuvres. In time of war this would be done and the vacancies supplied with civilian practitioners.

Accommodation for Convalescent Soldiers.

Mr. Wyndham replying to a question by Captain Norton said that the Secretary of State for War has decided that accommodation for convalescent soldiers shall be provided in existing barracks at 10 selected stations. There would be room for about 3500 convalescents in all.

Hospital Arrangements in Egypt.

Captain Norton asked the Under Secretary of State for War whether he could state if, upon receipt of the unofficial application for a hospital ship by the general officer commanding the army of occupation in Egypt on June 27th, 1898, any steps were taken to fit out a ship and to hold it in readiness to proceed to Egypt in anticipation of the expected renewed application; what steps, if any, were taken to supplement the existing hospital accommodation and nursing staff at Cairo and Alexandria with a view to the proper care of the sick and wounded while awaiting embarkation; and whether he could state the average number of patients in hospital at Cairo and Alexandria between Sept. 20th and Oct. 30th, 1898, as well as the average number of trained nurses in attendance on them during that period, also the average time that each patient remained at Alexandria or Cairo awaiting embarkation and the number of deaths that took place amongst the patients.—Mr. Wyndham said: No steps were taken to fit out a hospital ship on the receipt of the unofficial communication. The hospital accommodation at Cairo and Alexandria was supplemented by tents pitched close to the hospitals. At Cairo, where the accommodation is greatly in excess of normal peace requirements, the tents were used for a few days only. The average number of patients in hospital during September was: At Cairo, 354; at Alexandria, 113. During October: Cairo, 347; Alexandria, 258. Information has been asked for from Egypt as to the average time during which each patient awaited embarkation. This cannot be ascertained from the returns at the War Office. The deaths between Sept. 20th and Oct. 30th were: At Cairo, 67; at Alexandria, 37. The nursing staff at Cairo and Alexandria was supplemented by the addition of 138 non-commissioned officers and men of the Royal Army Medical Corps.

BOOKS, ETC., RECEIVED.

Black, A. and C., Soho-square, London.
The Englishwoman's Year Book and Directory. 1899. Edited by Emily Janes. 19th year. Price 2s. 6d. net.

Carl Gerold's Sohn, Wien.
Uber die Beulenpest in Bombay im Jahre 1897. Theil II. B. Mit 14 Tafeln. 1898.

Carré, G., et C. Naud, Paris.
La Maladie de Carrion ou la Verruga Péruvienne. Par E. Odriozola. 1898.
La Photothérapie. Par N. R. Finsen. 1899.

Cassell and Company, London.
The Year-Book of Treatment for 1899. Illustrated.

Chapman and Hall, Henrietta-street, Covent-garden, London.
Medical Works of the XIVth Century. By Rev. Professor G. Henslow, M.A., F.L.S. 1899. Price 21s.

Churchill, J. & A., Great Marlborough-street, London.
A Manual of Diseases of the Nervous System. By Sir W. R. Gowers, M.D., F.R.C.P., F.R.S. Third edition. *Edited by Sir* W. R. Gowers and Jas. Taylor, M.A., M.D., F.R.C.P. Vol. I. 1899. Price 15s.

Clive, W. B., Booksellers-row, Strand, London.
University Correspondence College: the University Tutorial Series. Matriculation Directory, No. 25. January, 1899. With articles on the Special Subjects for June, 1899, and January, 1900. Price 1s. net.

Davis, F. A., Compy. Publishers, Philadelphia.
Annual and Analytical Cyclopædia of Practical Medicine. By C. E. de M. Sajous, M.D., and others. Illustrated. Vol. II. 1899.

Fischer, Gustav, Jena.
Handbuch der Toxikologie. Von *Professor* A. J. Kunkel. Erste Hälfte. 1899.

George Newnes, Ltd., Southampton-street, Strand, London.
The Story of the Mind. By J. M. Baldwin. Illustrated. 1899. Price 1s.

Jenkins, Wm. R., New York.
Text-book of Anatomy, Physiology, and Hygiene. By R. Franklin Smith, M.D.

Kimpton, H., High Holborn, London.
Manual of the Diseases of Children. By J. M. Taylor, A.M., M.D., and Wm. H. Wells, M.D. Illustrated. 1899.
Text-book of Medical and Pharmaceutical Chemistry. By E. H. Bartley, B.S., M.D., Ph.G. Fifth Edition. Illustrated. 1899.

KNIGHT AND CO, La Belle Sauvage-yard, Ludgate-hill, London
Fry's Law of Vaccination By A. F Vulliamy Seventh Edition 1899.

LIPPINCOTT, J B, COMPANY, London and Philadelphia.
Lippincott's Pocket Medical Dictionary Edited by R W. Greene, A.B Price 5s net

LONGMANS, GREEN AND CO, London
Elementary Physiology By B Moore, M A Illustrated 1899 Price 3s 6d
The Annual Charities Register and Digest, 1899 With an Introduction by C S Loch, Secretary to the Council of the Charity Organisation Society, London Price 4s

MACMILLAN AND CO, London
General Physiology: An Outline of the Science of Life By M Verworn, M D Ph.D Translated and edited by F S Lee, Ph.D Illustrated 1899 Price 15s net.
Birds. By A. H. Evans, M A Camb 1899 Price 17s net

MALOINE, A, Paris
Cours de Minéralogie Biologique Par J Gaube (du Gers) Deuxième Série 1899

MASSON ET CIE, Paris
Des Péricardites. Par C Giraudeau.

MEDICAL PUBLISHING COMPANY Bartholomew-close, London
On Villous Growths and the Common Affections of the Rectum By Thos Bryant, M Ch (Hon), F R.C S Eng and Irel (Hon) Illustrated 1899 Price 3s 6d

MENDOTA BOOK COMPANY, Madison, Wis
Testing Milk and its Products By E H Farrington and F W. Woll Fourth Edition Illustrated 1899

NEW SYDENHAM SOCIETY, London
An Atlas of Illustrations of Pathology compiled for the New Sydenham Society Fasciculus xii Hodgkins Disease. With plates 1898

OHIO VALLEY COMPY, Cincinnati
Kings American Dispensatory By H W Felter, M D, and J U Lloyd, Phr M, Ph D Eighteenth edition In two Vols Vol I 1898

OLIVER AND BOYD, Tweeddale-court, Edinburgh
Notes on Surgery for Nurses. By Joseph Bell, M D, F R C S Edin Fifth Edition 1899 Price 2s 6d

PENTLAND, Y J, Edinburgh and London
The Edinburgh Medical Journal Edited by G A. Gibson, M D F R.C P Edin New series Vol v 1899

PULMAN, G, AND SONS London
The Work of the Life Assurance Examiner Part I Examination and Report By Sir Wm R Gowers, M D F R.C P, F R S 1899 Price 2s 6d

ROUTLEDGE, G, AND SONS Broadway, Ludgate hill, London
The Microscope Its History, Construction and Application By Jabez Hogg M R C S, F R.M S Illustrated Fifteenth edition 1898 Price 10s 6d

SCIENTIFIC PRESS, Southampton-street, Strand London
The London Water supply A Retrospect and a Survey By R Sisley, M D and Doctor of State Medicine, M R C P Lond 1899 *Price 21s*
The Nursing Profession How and Where to Train Edited by Sir H Burdett Price 2s net

SELL, HENRY Fleet-street, London
Sell's Directory of Registered Telegraphic Addresses for 1899, from Official Lists supplied by authority of the Postmaster-General. By Henry Sell Prices subscribers 18s non-subscribers 21s.
Sell's Dictionary of the World's Press for 1899 Vol i, Newspaper Section Vol. ii, Commercial Section. Prices 4s each

SMITH ELDER AND CO, Waterloo-place, London
A Junior Course of Practical Zoology By the late A. M Marshall, M D, D Sc., M A F R.S and the late C H Hurst, Ph D Fifth edition revised by F W Gamble, M Sc 1899
Saint Bartholomew's Hospital Reports Edited by N Moore, M D, and D'Arcy Power, F R C S Vol xxxiv 1899 Price 6s

UNION STEAMSHIP COMPANY, Bishopsgate-street within, London, E C
South Africa as a Health Resort with Especial Reference to the Effects of the Climate on Consumptive Invalids By Arthur Fuller, M B Edin M R C S Sixth Edition. 1893 Price 1s

UNWIN, T F, Paternoster-buildings London.
Harry Ingleby, Surgeon By Fred J Webb 1898 *Price 6s.*

WHITAKER J AND SONS Warwick lane London E C
Whitaker's Naval and Military Directory and Indian Army List. 1899 Price 5s

WRIGHT AND CO Bristol
The Thermal Waters of Bath By G A Bannatyne, M D, M R C P 1899 Price 2s

Dod's Parliamentary Companion for 1899 (Whittaker and Co, White Hart-street, Paternoster square, London) Price 4s 6d.—Banks and their Customers, by the author of 'The Banks and the Public.' 1899 (E Wilson, Royal Exchange, London, E C) Price 1s

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office directed to the Sub Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ABBOTT F C M B F R C S Eng, B Sc. Lond, has been appointed Assistant Surgeon to St. Thomas's Hospital, London

ANGELL, Mr, has been re-appointed Public Analyst by the Guildford *Town Council*

BLATHERWICK H, L.R C P Lond, M R.C S, has been appointed Medical Officer to the Dulwich Sanitary District, Parish of St Giles, Camberwell

BRENNAND F J, M B, C M Aberd. has been appointed Medical Officer to the Fourth Sanitary District of the Shepton Mallet Union

BRISCOE W T, M D, M Ch Dubl has been re-appointed Medical Officer to the District of Pewsham Chippenham Union

BYASS E S, M B, C M, L.R C S Edin, has been re-appointed Medical Officer to Slaugham, the Cuckfield Union

CAMERON A F, M B C M Edin, has been appointed Senior Assistant Medical Officer by the Sheffield Board of Guardians

CORFIELD, HENRY O, M D Edin., has been appointed Medical Officer and Public Vaccinator to the No 2 Sanitary District of the Bedminster *Union*

CLERY, J A, Col, M B, M Ch Dubl has been appointed Principal Medical Officer to the Thames and Woolwich Districts

DAVIES, W T, L R C P Lond., M.R C S, has been re-appointed Medical Officer to the Third Sanitary District of the Hertford Union

DE BEAUVAIS R N, L.S A has been appointed Medical Officer to the Milton Abbot Sanitary District of the Tavistock Union

DICKEY, A A G., M D Irel, L R C S, L.M R C P Irel, has been appointed Medical Officer to the Colne Sanitary District of the Burnley Union

DUKE, A W Col M D Irel, L R C S Irel., has been appointed Principal Medical Officer to the North Western District at Chester

DUNN J P, M B. C M Glasg, has been appointed Medical Officer to the Bishopton Sanitary District of the Sedgefield Union

FLINT, F S L.R C P L R C S Edin, L.F P S Glasg has been appointed Medical Officer to the Orford Sanitary District of the Plomesgate Union

FRYER, R A. M B, C M Edin has been appointed Medical Officer to the Hoxton New Town Sanitary District Parish of St. Leonard Shoreditch

GABBETT H S, M D Dubl, M R C P Lond has been appointed Pathologist to the Princess Alice Hospital, Eastbourne.

GRAHAM, JAMES M B C M Edi, has been appointed Medical Officer to the Workhouse of the Cockermouth Union

GRAHAM J W F L.S A, has been appointed Medical Officer to the Brill Sanitary District of the Thame Union

HANLY, JOHN JOSEPH M A (R U I), L.R.C P, L.R.C S, L.M Edin, *has been appointed* Medical Officer and Public Vaccinator to the No 2 Sanitary District of the Shepton Mallet Union, vice L. Powell resigned

HILLMAN G B. L.S A. has been appointed Medical Officer of Health by the Castleford Urban District Council

JACOB, F H, M.B Lond M R C S, L.R C P., has been appointed House Physician to the Nottingham General Hospital, vice J C Buckley, resigned

KEMPE, GILBERT, M D, B S Dunelm, M R C S L.R C P Lond, has been appointed Honorary Surgeon to the Salisbury Infirmary

KENNARD D G, L R C P Lond, M.R C S has been appointed Medical Officer to the Workhouse and the Faringdon Sanitary District of Faringdon Union

LONGFORD J M, L R C P, L R.C S Irel has been appointed Medical Officer to the Litcham Sanitary District of the Mitford and Launditch Union

MANN, J W S, L R C P Lond, M R.C S, has been appointed Medical Officer to the Revesby Sanitary District of the Horncastle Union

MURRAY R W *L.R C P Lond F R C S, has been appointed an Honorary Surgeon* to the Northern Hospital, Liverpool, vice A. H Wilson

NORMAN FREDERICK, M D Brux D P H, L.R.C P Lond M R C S, has been appointed Medical Officer to the Eighth District of the Lambeth Union vice Percy Fox

PRIOR, H T, M R C S, has been re-appointed Medical Officer of Health by the Loddon and Clavering Rural District Council

RAWLINGS J D, M B Lond, L.R C P, M R.C S, has been appointed Medical Officer to the Northern Sanitary District of the Dorking Union

ROBINSON, JAMES M D Brux L.R.C P Edin, M R.C S, has been re-appointed Medical Officer of Health by the Turton Urban District Council

Roche, Antony, M.R.C.P. Irel., has been re-appointed Examiner in Medical Jurisprudence and Public Health to the Royal University of Ireland.

Taylor, James, M.A., M.D., F.R.C.P., has been appointed Physician to the Royal London Ophthalmic Hospital, Moorfields.

Turner, R. T., M.D. Vict., Ch.B., has been appointed Medical Officer to the Wybunbury Sanitary District of the Nantwich Union.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

Birmingham and Midland Hospital for Skin and Urinary Diseases, Birmingham.—Clinical Assistant.

Birmingham Tame and Rea District Drainage Board.—Analytical Chemist. Commencing salary £135 per annum, rising to £165 per annum. Applications to Mr. J. Knight, Offices of the Drainage Board, Council House, Birmingham.

Bootle Borough Hospital, Liverpool.—Junior House Surgeon. Salary £50 per annum, with board, lodging, &c.

Borough of Royal Leamington Spa.—Manager of Baths. Salary £4 per week, without residence. Applications to the Town Clerk, Town Hall, Leamington.

Cottage Hospital, North Ormesby, Middlesbro'.—House Surgeon, in-door, unmarried. Salary £8 per month.

Cumberland and Westmoreland Asylum, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £80 a year, with board and residence.

East London Hospital for Children and Dispensary for Women, Glamis-road, Shadwell, E.—House Surgeon. Board, residence, &c., provided and an honorarium of £25 granted conditionally.

Farringdon General Dispensary, 17, Bartlett's-buildings, Holborn-circus, London.—Resident Medical Officer. Salary £100 per annum, with apartments and attendance.

Great Northern Central Hospital, Holloway-road, London.—Junior House Surgeon for six months. Salary at the rate of £30 per annum, with board, lodging, and washing in the hospital. Also Surgeon to Inpatients. Also Assistant Anæsthetist for six months. Honorarium at the rate of 10 guineas per annum.

Halifax Union Workhouse—St. Luke's Hospital.—Assistant Medical Officer, unmarried. Salary, £160 per annum, subject to statutory deductions. Applications to the Clerk to the Guardians, Union Offices, Halifax.

Hereford General Infirmary.—Senior House Surgeon, unmarried. Salary £90 per annum, with furnished rooms, board, washing, gas, coals, and attendance.

Huddersfield Infirmary.—Assistant House Surgeon for six months. Salary at the rate of £60 per annum, with board, lodging, and washing.

King's College, London.—The Sambrook Surgical Registrarship. Applications from King's College students only. Also Assistant Ophthalmic Surgeon.

Liverpool Northern Hospital.—Assistant House Surgeon. Salary £70 per annum, with residence and maintenance in the house.

London Temperance Hospital, Hampstead-road, N.W.—Assistant Medical Officer for six months. Residence in the hospital, board, and washing provided, and an honorarium of 5 guineas given conditionally.

London Hospital, Whitechapel, E.—Surgical Registrar. Salary £100 per annum.

Manchester Children's Hospital.—Junior Resident Medical Officer for six months, unmarried. Salary at the rate of £80 a year, with board and lodging. Applications to the Secretary, Dispensary, Gartside-street, Manchester.

Manchester Ear Hospital, 23, Byrom-street.—Clinical Clerkship for a Senior Student for six months. Honorarium 10 guineas.

Manchester Royal Infirmary and Dispensary.—Honorary Aural Surgeon and Honorary Assistant Surgeon.

Manchester Royal Infirmary.—Junior Administrator of Anæsthetics (non-resident) for twelve months at least. Salary £50 per annum.

Metropolitan Hospital, Kingsland-road, N.E.—House Physician, House Surgeon, Assistant House Physician, and Assistant House Surgeon, for six months. Salaries for House Physician and House Surgeon at the rate of £40 a year, and for the Assistant House Physician and Assistant House Surgeon at the rate of £20 a year.

Miller Hospital and Royal Kent Dispensary, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary £40 per annum, with board, attendance, and washing.

Norfolk and Norwich Hospital, Norwich.—House Surgeon for two years. duty of the Salary £80 per annum, with board, lodging, and washi vaccinated a certifi

Northern, Ho *The Royal A my* — Ambulance Surgeon. Board, residence, and TER asked t junior and an Assistant House

Preston Royal the fact Surgeon. Salarie for dut ing t. nnum respectively with board, lodging, washing, men— quite

Roxburgh District A d in f Lon—Assistant Medical Officer. Salary £100 per annu res hentated quarters, board, washing, and attendance.

Royal Berks Hospital, Reading.—Assistant House Surgeon for six months. Salary £30, with board, lodging, and washing.

Royal Halifax Infirmary.—Assistant House Surgeon, unmarried. Salary £50 per annum, with an extra allowance of £9 2*s.* 6*d.* per annum; also residence, board, and lodging.

Royal Hospital for Sick Children, Glasgow Dispensary.—Two extra Honorary Physicians.

Royal London Ophthalmic Hospital, Moorfields, E.C.—Junior Out-patient Surgical Officer. Salary £50.

Royal Portsmouth, Portsea, and Gosport Hospital, Portsmouth.—Assistant House Surgeon for six months. Board and residence provided, and an honorarium of £15 15*s.* given.

St. George, Hanover-square, Provident Dispensary, Little Grosvenor-street, London, W.—Resident Medical Officer. Salary £100, with allowance about £20, and residence at the dispensary.

South Devon and East Cornwall Hospital, Plymouth.—Hous Surgeon. Salary £100, with board and residence. Also Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

University of Edinburgh.—Lectureship on Diseases of Tropic Climates for three years.

Victoria Hospital for Consumption, Edinburgh.—Resident Physician for six months. Residence and board provided, in addition to a nominal honorarium at the rate of £20 per annum. Also Non-resident Medical Officer for Out-patients for six months. Salary at the rate of £80 per annum.

West Bromwich District Hospital.—Resident Assistant House Surgeon for six months. Board, lodging, and washing provided. Gratuity £20.

West Kent General Hospital, Maidstone.—Assistant Hous Surgeon for six months. Honorarium £12 10*s.*, with board and residence.

Weston-super-Mare Hospital.—House Surgeon, unmarried, Salar £60 per annum, with board and residence in the hospital.

Births, Marriages, and Deaths.

BIRTHS.

Adams.—On Feb. 15th, the wife of E. Weaver Adams, F.R.C.S., of Slough, of a son.

Barker.—On Feb. 21st, at the Old Brewery House, Watford, the wif of J. C. Barker, M R.C.S., L.R.C.P., of a son.

Batterham.—On Feb. 15th, at Grand-parade, St. Leonards-on-Sea, the wife of J. W. Batterham, M.B., F.R.C.S., of a son.

Campbell.—On Feb. 18th, at Eldon Royd, Bradford, the wife of H. J. Campbell, M.D., F.R.C.P., of a daughter.

Thomas.—On Feb. 18th, at Greenlawn, Pen-y-lan, Cardiff, the wife Mr. J. Lynn Thomas, F.R.C.S., of a daughter.

Thomson.—On Feb. 14th, at Bridge House, Retford, the wife of George Thomson, M.B., C.M. Edin., of a son.

MARRIAGES.

Austen—Sleigh.—On Feb. 14th, at St. Peter's, Brighton, Surgeon Thomas Austen, R.N., of H.M.'s Dockyard, Sheerness, to Ethel Dorothea Sleigh, third daughter of John Sleigh, J.P., late of Eversley, near Matlock, Derbyshire.

Bowes—Lee.—On Feb. 9th, at Christ Church, Herne Bay, T. A. Bowes, M.D., son of John Bowes, M.R.C.S., of Herne Bay, to Gertrude, youngest daughter of George Lee, Herne Bay.

Sadler—Holland.—On Feb. 7th, at the Parish Church, Ashbourne, Ernest A. Sadler, M.D., The Mansion, Ashbourne, to Elizabeth, second daughter of William Richard Holland, St. John's House, Ashbourne.

Shine—Fitzgerald.—On Feb. 14th, at Holy Trinity Church, Brook Green, Kensington, by the Rev. F. Grant, C.C., assisted by Rev. John Hill, P.P., Barnsley, John Power Shine, M.B., B.Ch. R.U.I., to Gretta Apjohn, fourth daughter of John Connell Fitzgerald, Esq., Abington House, Murroe, co. Limerick, Ireland.

Tyson—Du Boulay.—On Feb. 14th, at St. Paul's, Sandgate, William Joseph Tyson, M.D., of Folkestone, to Lola Houssemayne, youngest daughter of Julius Houssemayne du Boulay, Esq., J.P., of West Lawn, Sandgate.

Wingfield—Cole.—On Feb. 14th, at St. John's Church, Boscombe, Hants, Hugh B. Wingfield, M.D. Cantab., of Winchester, to Catharine Jane, youngest daughter of Major-General G. Wynne Cole, H.M. Indian Army.

DEATHS.

Roe.—On Feb. 16th, in London, Edward Roe, M.A. Cantab., L.R.C.P. London, M.R.C.S., of Lyndhurst, Hampshire, aged 53.

Terry.—Feb. 16th, at his residence, 35, Grosvenor, Bath, John Terry, M.R.C.S. Eng., and L.S.A., in the 77th year of his age. For many years proprietor of Bailbrook House Asylum.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (9.30 A.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.), London Throat (2 P.M.).

TUESDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1 30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (1st).—St. Bartholomew's (1.30 P.M.), University College, (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond street (9 30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (2nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2 30 P.M.), London Throat (2 P.M.).

FRIDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3 30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2 30 P.M.), West London (2. 30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (4th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.)

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (27th).—Medical Society of London.—8.30 P.M. Dr. S Martin: Auto-intoxication and its bearing on the Treatment of Disease.

TUESDAY (28th).—Royal Medical and Chirurgical Society (20 Hanover-square, W.).—8 30 P.M. Paper:—Mr. W. J. Walsham: A Case of Extirpation of a Large Non pulsating Aneurysm, involving the Common, Internal, and External Carotid Arteries of the Right Side of the Neck, with *remarks* on *Non-pulsation* in Aneurysms and the Treatment of Aneurysms by Extirpation.

WEDNESDAY (1st).—Obstetrical Society of London.—8 P.M. Specimens will be shown by Mr. Bland Sutton, Mr. Targett, and others. Mr. A. Doran (President): Inaugural Address. Paper:—Dr. C. H Roberts: A second Case of Primary Carcinoma of the Fallopian Tube.

Society of Arts.—8 P.M. Mr W. P. Rix: Leadless Glazes.

THURSDAY (2nd).—Harveian Society of London (Stafford Rooms, Titchborne-street, Edgware-road).—8.30 P.M. Mr. D'Arcy Power: *On Vanishing Tumours.*—Mr. B. Gardner: *A New Ether Inhaler.*

Neurological Society of London (11, Chandos street, W.).—8.30 P.M. Clinical Evening. Dr. F. E Batten: Muscular Atrophy in a Child.—Dr. T. D. Savill: Epileptiform Seizures of probable Vaso-motor Origin.—Dr H A. Caley: Syringomyelia with Sudden Increase of Symptoms.—Dr. W. Harris: Hæmorrhage into the Spinal Cord (? Syringomyelia).—Dr. J. H. Bryant: Paralysis Agitans following *Typhoid Fever in a Man aged 31 years.*—Dr. Stansfield: Epileptic Insanity associated with Mastoid Disease, Operation, Relief of Mental Symptoms And other cases.

British Balneological and Climatological Society (20, Hanover square, W).—3 30 P.M. Papers:—Dr. D. Kerr (Bath): Treatment of Disease by Heat.—Dr Hedley: The Therapeutics of Heat.

FRIDAY (3rd).—West Kent Medico-Chirurgical Society (Royal Kent Dispensary, Greenwich road, S.E).—8.45 P.M. Clinical Cases:—Dr. McCann and Dr. Ezard Notes with specimens of (1) a Case of Dermoid Cyst of Ovary, simulating Extra-uterine Pregnancy; (2) a Case of *Parovarian* Cyst of Unusual Size.—Mr. *Ernest Clark*: Eye Cases (Living and Pathological).—Dr. Toogood: Cases from Lewisham Infirmary.—Dr. Scholefield: Clinical Cases.

West London Medico-Chirurgical Society (West London Hospital, Hammersmith, W.).—8 15 P.M. Clinical Evening. Cases will be shown by Dr. S. Taylor, Mr. R. Pollock, Mr. McA. Eccles, and others.

Laryngological Society of London (20, *Hanover-square, W.*).—5 P.M. Cases will be shown by the President, Dr. De H. Hall, Mr. Bowlby, Dr. E. Law, Dr. StClair Thomson, and others.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (27th).—Royal College of Surgeons of England.—5 P.M. Mr. B. G. A. Moynihan The Anatomy and Surgery of the Peritoneal Fossæ. (Arris and Gale Lecture.)

The Royal Institute of Public Health (Rooms of the Royal Medical and Chirurgical Society, 20, Hanover-square, W.).—8.30 P.M. Prof. J. McFadyean: Tuberculosis in Cattle.

West London Post-Graduate Course (West London Hospital, W.).—5 P.M. Mr. McAdam Eccles: The Application of Trusses and of Abdominal Supports.

TUESDAY (28th).—Royal College of Physicians of London.—5 P.M. Dr. G. V. Poore: The Earth in Relation to the Preservation and Destruction of Contagia. (Milroy Lecture.)

West-end Hospital for Diseases of the Nervous System (73, Welbeck-street, W.).—4 P.M. Dr. D. Grant: Cases of Aural and other forms of Vertigo.

National Hospital for the Paralysed and Epileptic (Bloomsbury).—3 30 P.M. Mr. Gunn: The Value of the Visual Fields in *Diagnosis.*

WEDNESDAY (1st).—Royal College of Surgeons of England.—5 P.M. Mr. B. G. A. Moynihan: The Anatomy and Surgery of the Peritoneal *Fossæ. (Arris and Gale Lecture.)*

Evelina Hospital (Southwark-bridge-road, S E.).—4.30 P.M. Mr. F. C. Abbott: Clinical Demonstration on the Complications of Ear Disease. (Post Graduate Course).

Hospital for Consumption and Diseases of the Chest (Brompton).—4 P.M. Dr. H. Mackenzie: Medicinal Treatment of Pulmonary Tuberculosis.

THURSDAY (2nd).—Royal College of Physicians of London.—5 P.M. Dr. G. V. Poore: The Earth in Relation to the Preservation and Destruction of Contagia. (Milroy Lecture.)

Charing-cross Hospital.—4 P.M. Dr. M. Murray: Demonstration of Medical Cases. (Post-Graduate Class.)

Royal London Ophthalmic Hospital (Moorfields).—8 P.M. Mr. *Tweedy: Diseases of the Conjunctiva, with Special Reference to* their General Pathology and Classification.

London Temperance Hospital.—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration to Senior Students.

The Hospital for Sick Children (Gt. Ormond street, W.C.—4 P.M. Dr. Garrod: Demonstration of Selected Cases.

West London Post-graduate Course (West London Hospital, W.).—5 P.M. Mr. McAdam Eccles: The Application of Trusses and of Abdominal Supports.

St. John's Hospital for Diseases of the Skin (Leicester-square, W.C.).—4.30 P.M. *Dr. M. Dockrell: Cases of Telangiectasis* and Vascular New Growths.

FRIDAY (3rd).—Royal College of Surgeons of England.—5 P.M. *Mr. B. G. A. Moynihan: The Anatomy and Surgery of the* Peritoneal Fossæ. (Arris and Gale Lecture.)

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of The Lancet should be addressed *exclusively* "To the Editors," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of The Lancet *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

The *Index to Vol. II. of 1898,* which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in The Lancet of Jan. 7th.

VOLUMES AND CASES.

Volumes for the second half of the year 1898 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

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O.—Omega.

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The Milroy Lectures

ON

THE EARTH IN RELATION TO THE PRESERVATION AND DESTRUCTION OF CONTAGIA.

Delivered at the Royal College of Physicians of London

BY G. V. POORE, M.D., F.R.C.P. LOND.,

PROFESSOR OF MEDICAL JURISPRUDENCE AND CLINICAL MEDICINE UNIVERSITY COLLEGE; PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL.

LECTURE II.[1]

Delivered on Feb. 28th, 1899.

ENTERIC FEVER.

MR. PRESIDENT AND GENTLEMEN,—Enteric fever has of late years much occupied the attention of epidemiologists and bacteriologists and our knowledge of its definite relationship to filth, milk, and water has undergone considerable increase. The laboratory experiments connected with enteric fever are of great interest and value, but it would be, to say the least, hazardous to build upon them any measures intended for practical sanitation. It must never be forgotten that the typhoid bacillus does not fulfil one of Koch's postulates. The disease produced by the inoculation of guinea-pigs with pure cultivation of typhoid bacillus has but a remote resemblance to the disease which we clinically know as enteric fever, a disease which seems limited to the human species. Sidney Martin[2] found that "none of the ordinary cultures of the typhoid bacillus obtainable in the laboratories will kill an animal"[3] but that it may be rendered virulent by inoculation and transference through a succession of peritoneal cavities and also by injecting simultaneously the products of other micro-organisms, such as streptococcus or bacillus coli communis. It is noteworthy that the bacillus coli communis and Gaertner's bacillus when subjected to similar manipulations are as toxic to rabbits as is the typhoid bacillus. It must be remembered that "pure cultivations of the bacillus typhosus cannot be said to exist in nature." We recognise, and it may be taken as proven, that the main cause of the endemicity and epidemicity of enteric fever in this country is to be found in the fæces of the patient, and yet Martin tells us that while the bacillus is invariably found in the spleen and mesenteric glands and in intestinal lesions "it is found in some cases in the motions of typhoid fever and also in the urine."

Dr. J. R. Carver, working under Delépine at Manchester, found the typhoid bacillus twice in 20 samples of typhoid fæces and once in 16 samples of typhoid urine.[4] Martin, working with sterilised soils, has shown that in soils which are more or less "polluted" with organic matter the bacillus typhosus will continue to live and spread at ordinary temperatures, but that in virgin soils (both sandy and peaty) the pure cultivations of the bacillus die out from some unexplained cause. Martin gives one experiment[5] to show that in unsterilised soil containing much organic matter the bacillus may continue to live, but as yet there has been no evidence of spreading. John Robertson and Maitland Gibson[6] collected 30 samples of soil from areas which they considered likely to be infected. "In not one single instance was the bacillus typhosus found."

These gentlemen carried out experiments in a field (soil, eight inches of clayey loam on 10 inches of sand and clay on stiff yellow boulder clay); each experimental patch had the turf removed and nothing was allowed to grow upon it. The patches were 18 inches square. Three patches were inoculated with 200 cubic centimetres of a pure cultivation of the bacillus typhosus mixed with one and a half gallons of tap water, No. 1 on the surface, No. 2 nine inches deep, and No. 3 18 inches deep, the top soil being removed and replaced. This was done on May 30th, 1896, and on August 26th the bacillus typhosus was found three inches below the surface of each and at nine inches below the surface of No. 2 and No. 3 and also at 18 inches below the surface of No. 3. On Oct. 20th there were practically the same results. On Nov. 27th the bacillus typhosus could not be found in either patch. Towards the end of August, 1896, three other patches (Nos. 4, 5, and 6) were inoculated in the same way and on Nov. 27th no bacillus typhosus could be found. These patches were three feet square. On Jan. 17th, 1897, patches Nos. 4, 5, and 6 received two gallons of very weak beef tea which was repeated at fortnightly intervals till June 3rd, 1897, when on examination the organism was easily found. No organism was found at this date in patches Nos. 1, 2, and 3, which had not been fed with bouillon. Practically the same result was obtained on July 11th. The persistence of the bacillus typhosus appears to depend on feeding it with fluid nourishment. A sewer leaking into the soil would do this or liquid filth in a privy. It was shown that the organism would grow three inches downwards or upwards from a depth of 18 inches. The slight downward growth might be due to mechanical conditions. The effect of sunlight does not penetrate far.

Laboratory experiments went to show that vegetation (grass) prevented the growth of the organism. This may go to explain "why typhoid fever is so much more prevalent in towns than in rural districts." Attempts to prove the aerial conveyance of the organism from liquid filth failed.

Further allusions by Dr. J. Robertson to these experiments were made later in the year,[7] in the course of which he said: "During the winter months organisms disappeared from the surface soil and from these experiments I was led to believe that the deeper layers acted as a sort of shelter during the winter months from which the organism sallied forth to the surface during the warmer months." He had not noticed any relation between typhoid fever and the rise and fall of the ground water, but he thought it was most common in places where the ground water is near the surface. The bacillus typhosus quickly dies out in grass-covered areas.

Let us now turn from these experiments which, after all, are very artificial to the practical experiences of sanitarians in the matter. It may be premised that Martin's experiments show that the bacillus typhosus will grow in any soil rich in organic matter, and that although aerobic it can be cultivated as an anaerobe even in an atmosphere of carbonic acid,[8] and the bacillus seems to be definitely destroyed by sandy or peaty "virgin" soils. Robertson and Gibson cultivated the bacillus on a soil in which clay predominated. Sir Charles Cameron is of opinion that it flourishes in gravel. At Dublin on August 23rd, 1898, he said, speaking of enteric fever: "That there is a connexion between enteric fever and the soil is shown by the results of observations of the distribution of more than 4000 cases of the disease in Dublin. Where gravel forms the site of streets there is far more typhoid fever than in districts which rest upon the stiff boulder clay. This is clearly owing to the fact that the bacillus typhosus, which is aerobian—that is, requires oxygen—can get it more freely in the loose gravels than in the stiff clays. In the gravel, too, there is a much greater space for the development and movement of the bacilli."

Dr. Scurfield of Sunderland said that "the greater part of the county of Durham in which typhoid fever had been prevalent during the last few years was covered with stiff boulder clay, and in the urban district of Sunderland typhoid fever had been just as prevalent in the boulder clay as in the houses built on sand or gravel." Pettenkofer, the chemist of Munich, is the person who is mainly answerable for the theory that enteric fever is due to a soil organism which grows with maximum vigour when the level of the ground water falls.

Dr. Christopher Childs in a valuable paper which appeared in THE LANCET[9] has placed us in possession of important facts. Munich lies on a bed of gravel 1700 feet above sea level. Between 1851 and 1896 the population has increased from 124,000 to 412,000, so that modern Munich is largely a new city. Up to 1865 Munich was a city of soakaway cesspools and filthy surface wells, and it was not till 1858 that the cesspool system began to be remedied and not till 1865 that the water-supply began to be improved. Pettenkofer's early investigations, Dr. Childs says, led him to the conviction "that in Munich there was not the slightest connexion between the drinking water and the typhoid,"[10] and this in spite of the fact that the water was shown *on analysis* to be organically polluted. The analyses and general investigations of the earlier date have been very imperfectly *recorded, but there* is evidence, says Dr. Childs, that the water was much *worse* in the earlier periods than latterly. Of Pettenkofer's personal investigations Dr. Childs says: "I have not succeeded in finding *recorded details* but they derive their weight from the high authority of Pettenkofer himself." The enteric death-rate which per short sharp shower might do infinite mischief at Tutsham-in-Field and yet be insufficient to affect the level of the subsoil water in Maidstone. Let us look at the facts of the epidemic from this point of view.

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[1] Lecture I. was published in THE LANCET of Feb. 25th, 1899.

[2] Croonian Lectures, 1898.

[3] When therefore Sir Richard Thorne in commenting upon Martin's pure cultivations of bacillus typhosus in sterilised soil says that they yielded the bacillus "presumably in virulent phase" (Local Government Board Reports, 1897–98, p. 23), his presumption is scarcely warranted by the facts.

[4] THE LANCET, August 20th, 1898.

[5] Local Government Report, 1897–98.

[6] Brit. Med. Jour., Jan. 8th, 1898.

[7] Ibid., August 13th, 1898.

[8] Local Government Board Report, 1887.

[9] THE LANCET, Feb. 5th, 1898.

[10] This may have been due to the fact that the wells were all equally bad.

The incubative period of enteric fever is stated by the Clinical Society of London to vary between five and 23 days. I am justified, therefore, in assuming that the majority of those who might receive a dose of poison to-day would be attacked between the seventh and twenty-first day following. Between June 28th and August 7th there had fallen only 0·21 inches of rain. At the end of a dry period the delay in the distribution of water would not be great, but it is obvious that a house cistern might be charged with infective material and considerable delay might occur before the attacks, if the bulk of the household were away. After 40 days of drought rain fell to the extent of 0·44 inch on August 7th and 8th, and 0·13 inch fell on August 15th. On August 17th and 18th there was a fall of 0·53 inch, and if this rain washed infective material to the reservoir it should cause attacks between August 24th and Sept. 9th. *The first attack of the epidemic* is stated to have occurred on August 23th and between that and Sept. 8th there were 101 attacks. On August 26th hop-picking commenced and the population round the Tutsham spring was necessarily increased. On that day there fell 0·35 inch of rain, the *heaviest fall in any one day since May 20th.* The effect of this shower should become manifest between Sept. 2nd and Sept. 16th. The attacks down to August 8th have been previously given, but between the 8th and 16th there were 335 attacks. On Sept. 1st there was 0·31 inch of rain, again on Sept. 5th in the very middle of the hop-picking there fell 0·44 inch the heaviest fall since March 2nd. The effect of this should become manifest between Sept. 12th and 26th. *Omitting the cases down to* and including the 16th we find that between the 17th and 26th inclusive there were 625 attacks. There was 0·27 inch on Sep. 8th, hop-picking being still in progress. This would carry us on to Sept. 27th, 28th, and 29th, in which days there were 122 cases. On Sept. 18th and 19th *(hop-picking having come to an end on the 13th)* there fell 0·51 inch. This would take us down to Oct. 9th and we find that from Sept. 30th to Oct. 9th there were 237 attacks. On Sept. 20th the Tutsham springs were cut off, the effect of which would not be fully manifest for three weeks. On Oct. 12th the daily attacks suddenly dropped from 18 to seven.

It must be borne in mind that the Tutsham spring had presumably sent a considerable dose of muddy water to the Barming reservoir on Sept. 18th and 19th, the very day before it was cut off, when there fell 0·51 inch of rain, and the influence of this would be felt up to Oct. 11th at least. *On Oct. 11th and 12th the daily attacks fell from 18* to seven and never rose again above nine. We must remember that after the Tutsham springs had been cut off there was the possibility of poison lurking in the foul Barming reservoir, the water pipes, and the house cisterns. On Sept. 29th there fell 0·83 inch of rain, a shower of tropical severity, and it is exceedingly likely that in the stirring up of the town sewers there may have been some leakage into the water service. There is no evidence on the point, but such things do happen at such times. In any case the effect of the wholesale poisoning of part of the water system which had taken place would be likely to endure for some time. It was not till Oct. 18th that the implicated water system was in great part (but not wholly) disinfected and this process was not completed entirely until Nov. 4th. The full benefit of this would show itself three weeks later (Nov. 25th). In the weekly returns of attacks (see Table I.) there were only four for the week ending Dec. 4th, as against 13 for the week ending Nov. 27th. Subsequent to Nov. 27th there were only 17 attacks.

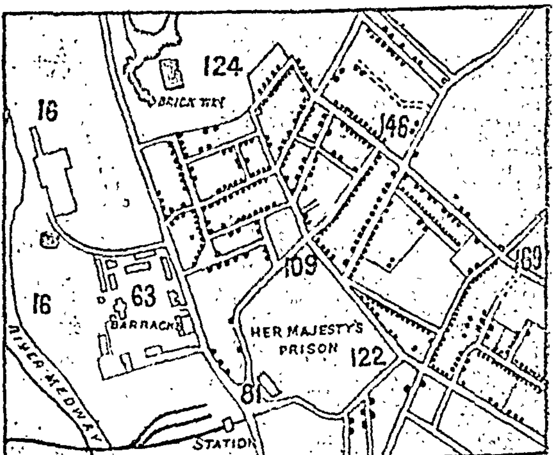
The epidemiological facts of this outbreak are quite compatible with the theory that the dirty water supplied from Tutsham-in-Field was the main cause of the outbreak, and I do not think that the effects of the contamination could be expected to finally disappear until three weeks after the completion of the disinfection of the water service on Nov. 4th. The inspectors in their report fix Oct. 18th as the day when the influence of the Farleigh water ceased to be felt in Maidstone and they say (p. 32): "Nearly all the cases notified after Oct. 18th (some 280 in number) are to be regarded as having had a cause other than the consumption of Farleigh water." This opinion seems to imply that in the estimation of the inspectors the disinfection of the Farleigh water system which began on Oct. 16th and continued until Nov. 4th was superfluous and useless.

Speaking of the 280 cases they continue: "By Mr. M. A. Adams they were referred to direct infection from previous cases and to unsanitary conditions of water-closets, drains, and sewers. This explanation appears to us to be the probable one if the unsanitary conditions referred to be taken in the wide sense of including the fouling of the soil by leakage from these defective drains and sewers. Recent researches into the life-history of the bacillus of typhoid fever go to show that this organism finds in a soil contaminated with foul matters from leaky sewers, drains, and cesspools conditions especially favourable to its vitality and multiplication. *That the soil on which Maidstone stands is thus contaminated was set beyond doubt by the evidence put before us.* To the existence of these conditions is mainly, we consider, to be attributed the remarkable persistence of fever in Maidstone after the primary cause of the outbreak had been removed by cutting off the Farleigh water-supply."

Do the facts of the case really establish the conclusion which the inspectors say is "set beyond doubt"? I do not find a single word in the report or a single experiment to prove that the bacillus typhosus was growing in the soil of Maidstone. The epidemic is remarkable not only for its severity but from the fact that six gentlemen, all eminent for their skill in bacteriology, failed to discover a single typhoid bacillus. The bacteriological investigations were upon a scale which was quite unprecedented and in so far as the bacillus typhosus was concerned were entirely and absolutely negative. It may be, as the inspectors hint was the case, that the bacillus typhosus was permeating the soil of Maidstone in November, December, and January very much as a blue mould permeates a cheese, but no examination of the soil is recorded in the report. There are facts, however, which make strongly against any such contention. These were the total escape of the barracks and prison.

On page 26 of the report is the following paragraph: "The barracks and the Maidstone prison are both within the borough and both are connected with the town sewers. The population of the barracks was 300, this total including 166 men, 44 women, and 88 children. The water supplied to the barracks is that of the Boarley system of the water company's supply. *No case of typhoid fever occurred in the barracks* during the year. At the prison the average population throughout the year was 171, the total number of prisoners received being 1925. The water used on week-days is from a well 34 feet deep sunk in the Hythe beds of the lower greensand. *On Sundays water is turned on to the prison* from the Boarley mains. There have been no cases of typhoid fever or diarrhœa among the prisoners or staff during the whole of 1897." During the five months (August to December) there were probably 800 persons who drank water from the 34-feet well sunk in the "contaminated" soil of Maidstone. A reference to the map (Fig. 5) will show that the area of the prison is closely hemmed in on the north and east by fever-stricken houses and the escape of the prison and barrack populations is most remarkable. Neither rise nor fall of subsoil water brought typhoid fever or diarrhœa to the prison.

FIG. 5.



"Spot" plan of surroundings of Maidstone barracks and prison. The big numerals show the height above sea-level. The black dots are fever-stricken houses.

The investigations connected with the Maidstone epidemic are of great interest as pointing to the wonderful protection which the humus affords to the underlying water against pollution from above. The whole of the Farleigh springs were of the same character, the catch-pits of many of them were liable to invasion in time of flood, and the gathering ground of most of them was highly cultivated and manured land. And yet none of them (always excepting Tutsham-in-Field) afforded evidence of serious bacterial impurities. It may be added that in the third quarter of 1898 there was one death from enteric fever in Maidstone and another death from the same cause in the fourth quarter, so that the "contaminated" soil of Maidstone was not able to contaminate the inhabitants during the drought of July, August, and September or the rains of October, November, and December *of last year.*

IMMUNITY.

Bacteriologists have abundantly proved that the germs of disease are ubiquitous. They are found in earth, air, water;

in the dust and on the walls of our dwellings, in clothing, in meat, milk, bread, and even occasionally, as Andrewes has shown, in hot baked rice-pudding. With regard to most of the necessities of life we hear the cry of "unclean," "unclean," until the wonder is that we are any of us left alive to warn our neighbours. The fact that many of us manage to live to a respectable age and to die from something which is non-infective cannot but make us consider whether after all the immunity of the individual is not the fact which tends more than any other to the improvement of the public health. It is wholesome for us to remember that the greatest sanitary achievement of our time has been the practical disappearance of typhus fever. Of the *causa causans* of this disease we know nothing. Its absolute disappearance has not been produced by successful germ hunting. Its disappearance is probably due to the improved conditions under which the masses of the population live as regards food and cleanliness. Few of us doubt that if this country should become involved in war and food should become dear and scarce in consequence the relative immunity of the population would be lessened and typhus fever would re-assert its sway. Whether we succumb to an infective disease or not probably depends in great measure to the dose of the poison which we receive. When an endemic disease such as enteric fever becomes epidemic it is due to the sudden dissemination of a poison in relatively large or virulent doses. Even in the most severe epidemics it is rare for more than 10 per cent. of those who have run obvious risks of receiving the poison to be attacked. The questions of virulence and vulnerability are most important. It seems to be well-established that the virulence of some of the pathogenic microbes varies immensely with the conditions of soil, temperature, air, sunlight, &c., under which they are grown, and it is a fact that must be remembered that it is not always the pure cultivation which manifests most virulence. Many infective diseases assume a virulence in the tropics which is rarely met with in temperate countries. This appears to be true of tropical malaria, enteric fever, cholera, yellow fever, anthrax, and tetanus. In hot countries where a temperature equal to the optimum for the growth of many pathogenic microbes is often continuously maintained for weeks in succession, the risks of contagion and the danger of uncleanliness must often have become apparent in a manner more convincing than is the case among us. The repeated injunctions as to uncleanliness in the Mosaic law and the rigid rules laid down as to the conditions which made a man unclean and which necessitated his subsequent purification must have been the outcome of experience. To eat with unwashed hands in a tropical country and without knives and forks would clearly be to run considerable risks. The regulations in force among the Hindus were even more stringent, and although some of the regulations may appear to us to be extravagant and nonsensical it is impossible not to admit that most of them have for their aim the protection of the individual and his fellow man from the risks of infection.[15]

There can be no doubt that the health and vigour of the individual is all-important in relation to infective disease. The enervating influence of a tropical climate upon Europeans is recognised as a potent predisposing cause of infective disease and if to the effects of climate be added those of inordinate fatigue and insufficient food the risks of infection getting a hold of the organism are greatly increased. Director-General Jameson told us last year in the debate on enteric fever already alluded to that "in almost all the posts occupied by European troops coöperating with the various columns in Afghanistan, extending from the British territory up to Kabul and Kandahar, cases of enteric fever appeared, *some of which posts were occupied probably for the first time* since the world began." In the Nile expedition in 1889 those troops suffered most which had undergone most exposure and fatigue "and it becomes difficult to resist evidence tending to show that in the causation of this disease there may be more factors than are generally acknowledged." Dr. Maclean, R.N. (*in a letter to Sir J. Fayrer*), alludes to the occurrence of enteric fever in the Island of Ascension, under circumstances of close observation where no connexion could be traced with defective sanitary arrangements, though it is probable that malarial influences did occur. "There is no such thing as a drain or a cesspool in the island, all the sewage and other filth being removed daily and thrown into the sea to leeward of all dwelling-houses. The water, partly collected from the roofs of buildings during rain and partly condensed, is stored in iron and cemented stone tanks and removed from all possible sources of contamination." It is of course possible that in a case such as this the bacillus typhosus may be lying dormant in the body ready to assert itself when bodily enfeeblement reaches a certain pitch. It has been asserted (and the assertion received the support of the late Professor Kanthack) that the bacillus typhosus may be found in an abscess years after the attack and the same thing holds good in a less degree with regard to the microbes of diphtheria and cholera.

Nothing is better established with regard to tubercle than its relation to overcrowding and unwholesome occupations. Three times as much tuberculous disease occurs in the centre of London as at the outskirts and an hotel servant in London runs a risk of dying from tubercle nearly 10 times as great as that of the farm labourer. In our combat with this disease we must by no means confine our efforts to microbe hunting. So again with "filth diseases," we must remember that almost all infective diseases are especially fatal to those who live in the midst of filthy surroundings. It is not, I think, at all necessary to assume, although it is possibly the case, that specific organisms are growing in the filth. In the cramped dwelling of the artisan where the privy is often barely six feet from the back door the risks of fæcal befoulment of the food or person are very great and when in such places large pails of fæces are left to putrefy for a week or more it is not to be wondered at that the inhabitants should show an undue predisposition to the infection of enteric fever, as has been pointed out by Boobbyer and others.

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[15] In the Abbé Dubois's book on Hindu Manners, Customs, and Ceremonies, translated by Beauchamp (Clarendon Press, 1897), will be found a chapter (vol 1, p 238), largely culled from the great book of Brahmin ritual called "Nittia-Karma," on hygienic rules and among them a section on "Rules to be observed by Brahmins when answering the Calls of Nature." 1. Taking in his hand a big *chembu* (brass vessel) he will proceed to the place set apart for this purpose which should be at least a bowshot from his domicile. 2. Arrived at the place he will begin by taking off his slippers which he deposits some distance away and will then choose a clean spot on level ground. 3. The places to be avoided for such a purpose are, the enclosure of a temple; the edge of a river, pond, or well; a public thoroughfare or a place frequented by the public; a light-coloured soil; a ploughed field; and any spot close to a banyan or any other sacred tree. 4. A Brahmin must not at the time wear a new or newly-washed cloth. 5. He will take care to hang his triple cord over his left ear and to cover his head with his loin cloth. 6. He will stoop down as low as possible. It would be a great offence to relieve oneself standing upright or only half stooping, it would be a still greater offence to do so sitting upon the branch of a tree or upon a wall. 7 While in this posture he should take care to avoid the great offence of looking at the sun or the moon, the stars, fire, a Brahmin, a temple, an image, or one of the sacred trees 8. He will keep perfect silence 9 He must chew nothing, having nothing in his mouth, and hold nothing on his head. 10. He must do what he has to do as quickly as possible, and rise immediately. 11. After rising he will commit a great offence if he looks behind his heels. 12 If he neglects none of these precautions his act will be a virtuous one, and not without merit; but if he neglects any of them the offence will not go without punishment. 13. He will wash his feet and hands on the very spot with the water contained in the *chembu* which he brought. Then taking the vessel in his right hand and holding his private parts in his left, he will go to the stream to purify himself from the great defilement which he has contracted. 14. Arrived at the edge of the river or pond where he purposes to wash himself he will first choose a suitable spot and will then provide himself with some earth to be used along with the water in cleansing himself. 15. He must be careful to provide himself with the proper kind of earth and must remember that there are several kinds which cannot be used without committing an offence under these circumstances Such are the earth of white ant nests, potter's earth, road dust, bleaching earth, earth taken from under trees, from temple enclosures, from cemeteries, from cattle pastures, earth that is almost white like ashes, earth thrown up from rat-holes and such like. 16. Provided with the proper kind of earth he will approach the water but will not go into it. He will take some in his *chembu*. He will then go a little distance away and wash his feet and hands again. If he has not a brass vessel he will dig a little hole in the ground with his hands near the river side and will fill it with water which he will use in the same way, taking great care that this water shall not leak back into the river. 17. Taking a handful of earth in his left hand he will pour water upon it and rub it well on the dirty part of his body. He will repeat the operation, using only half the amount of earth, and so on three times more, the amount of earth being lessened each time. 18 After cleansing himself he will wash each of his hands five times with earth and water, beginning with the left hand. 19. He will wash his private parts once with water and potter's earth mixed. 20 The same performance for his two feet, repeated five times for each foot, beginning, under the penalty of eternal damnation, with the right foot. 21. Having thus scoured the different parts of his body with earth and water he will wash them a second time in water only. 22. After that he will wash his face and rinse his mouth out eight times When he is doing this last act he must take very great care to spit out the water on his left side, for if by carelessness or otherwise he unfortunately spits it out on the other side he will assuredly go to hell. 23. He will think three times of Vishnu and will swallow a little water three times in doing so.

But it must be remembered that wherever putrefaction is going on and wherever anaerobic organisms are growing in a filth-sodden soil unwholesome gases, such as CO_2, H_2S, CH_4, and H, are being given off and it is impossible not to admit that the breathing of these gases, from week end to week end in the crowded courts of a great city may so lower the vitality of the body as to increase its vulnerability to infection of all kinds. But these gases *which are naturally given off from sewers and sewer traps*, from cesspools, from privies and from water-logged and filth-sodden soil are accompanied by "odours" which are often too subtle for the chemist to analyse but which, nevertheless, are sufficiently potent to make a strong man sick and faint and to reassert themselves in the excreta 24 hours after being inhaled. The odour given off by a tropical arum at Kew some few years since during the time it was in flower and just ripe for fertilisation was of a kind which could only be described as appalling and which made it impossible to enter the house where it was growing without putting a clip on the nose and holding the breath. I merely want to emphasise the fact that odours may have a power which neither the chemist nor the bacteriologist can gauge and that we must be ready to admit that to live in stinks and filth must depress the health and increase the susceptibility to infection by microbes some of which have perhaps a greater measure of ubiquity than we are definitely aware of.

Professor Stewart Stockman[16] reports an investigation which he carried out on a septic organism which proved fatal to 380 fowls out of 400 on a poultry farm. He says: "The most important thing about this bacillus seems to me to be its fatal effect on tuberculous birds while it appears to be non-pathogenic, or nearly so, for healthy birds. It is also interesting to note that it killed a rabbit affected with the coccidium oviforme although the healthy ones were little affected by it. This observation, I think, affords fresh evidence in favour of what is taught about certain other microbes—namely, that they are only pathogenic to the enfeebled organism."

Danger of Wounds.

It is an established fact and is now universally accepted that infective organisms may gain access to the body through the smallest conceivable wound whether of the skin or the mucous membrane. The various forms of septicæmia as well as erysipelas and malignant œdema are due to this cause. Tetanus, as we have seen, is always due to the inoculation of a wound and it is a question whether anthrax of cattle is not more often caused by inoculation of a skin abrasion than hitherto has been suspected. Whether any of our common infective fevers are communicable by accidental inoculation is a moot point and one which is certain to receive a full share of attention in the immediate future. It is certain that in the transmission of plague a broken skin bears a most important part, and it may be that other infections may be conveyed in the same way. A distinguished pathologist is credited with having infected himself with enteric fever by a post-mortem wound. The infections brought about by flies, ticks, and mosquitoes are at present attracting much attention from pathologists and it seems probable that the danger of certain "soils" and climates may be shown to be due in an increasing degree to the insects which find in the localities the various conditions necessary for their existence. It may be that in some instances an abrasion of the skin made by an insect may merely serve as a point of entrance for infective organisms abounding in the surface of the soil or in the immediate surroundings of the individual and having no necessary connexion with the insect itself. It seems certain, however, that in the majority of instances which have been worked out a particular species of insect serves as an intermediary host for a specific organism which affects a specific animal. We hear a good deal in a loose and speculative way about flies conveying fever. This may be true, but we must always bear in mind what I feel inclined to call the excessive specialism of nature. Insects which feed on dung and carrion are seldom attracted by the food of human beings and I confess to being somewhat sceptical as to the accidental conveyance of infection by "flies" which heedlessly buzz first into the fæces and then into the milk. The pathologist of the future will clearly have to call in the help of the entomologist.

Practical Considerations.

The Maidstone epidemic has been very useful in directing attention to some of the common conditions which endanger water-supplies. Pasteur and all subsequent bacteriologists have directed attention to the value of the earth as a filter and it is a matter of common knowledge that a very shallow layer of compact earth will remove the bacteria and much of the organic matter from water percolating through it.

The greatest danger to shallow wells is to be found in subterranean collections of filthy fluids which leak through fissures in the earth and with a gradually increasing hydraulic pressure. If there be no such dangers in the immediate neighbourhood, then a properly constructed shallow well is safe. The lined well five feet deep which I have in the middle of my garden has given water of exceptional purity for years, notwithstanding that the ground is cultivated with human excreta to within six or seven feet of the well. Dr. Macmartin Cameron, medical officer of health for Kirkcudbright and Wigtown,[17] shares my opinion that a "surface well" properly constructed and in a selected situation is a safe source for water. Dr. Cameron's paper embodies much experience obtained in his official capacity and many of his observations are worthy of quotation as showing some of the limits of danger and safety in relation to shallow wells.

> "*The construction of new village wells.*—When the wells of a village are shown to be contaminated and a new water-supply becomes imperative it is not, as a rule, necessary—not, at least, in the province of Galloway, for which I have the honour to be medical officer of health—to press on a gravitation scheme as the only way of meeting the difficulty. A simple and inexpensive well scheme will often suffice. All that is requisite is to sink new wells outside the precincts of the village on higher ground if practicable. Commonly enough the self-same water that feeds the old wells may be tapped at a point *before it* has entered the polluted ground of the village. All that is then required to secure perpetual immunity from pollution is to obtain possession of a sufficiency of ground around each well to be devoted for all time to purposes of filtration. With a sufficient reserve (*anything, say,* from half to one acre, according to circumstances) *little or no danger* will accrue from ordinary agricultural operations beyond, but it would be better that as much as possible of the outlying ground should be left under grass. There is no safer or better water than that which a surface well in an old grass park can be got to yield. *This is an ideal* site. I should have no fear even of a top dressing of manure, provided the ground in the immediate vicinity of the well were not *profaned*.
>
> "Professor Hunter Stewart (Edinburgh) remarked that Dr. Vivian Poore's experiment with a six-feet well carefully cemented at the sides gave water which contained seven micro-organisms to the cubic centimetre and the bacillus *coli* was conspicuous by its absence. A part of the supply of the city (Edinburgh) was from wells near the Pentland Hills not more than eight feet deep, situated in highly manured land and exposed to pollution from neighbouring middens. From the water of these particular wells *of a maximum of eight feet in* depth he found a maximum of micro-organisms of 11 to the cubic centimetre and a minimum in three out of eight wells of absolute sterility. These observations abundantly supported the observations of Dr. Poore."

Reverting to the conditions which obtained at Maidstone I will mention a few considerations which, though obvious enough, are often neglected. During a drought such as occurred in June, July, and August, not only would the stiff hop land be liable to crack, but the earth-worms would retire to the lowest point in search of moisture. At such times they go deeper and deeper into the soil and lie coiled up in oval knots at the bottom of their burrows. I have upon the table a piece of a worm-burrow removed from my garden in September last at a depth of more than two feet. It is more than a quarter of an inch in diameter and would act as a drain from the surface to the deeper parts. This question of worm-burrows is one of great practical importance to sanitarians because, especially after a drought, they may serve to conduct surface water to considerable depths without its really being influenced by that biological filter the humus. Darwin[18] says that although worms generally live near the surface they may burrow to a considerable depth during long-continued dry weather and severe cold; the depth varies with the soil.

> "In a bed of fine sand overlying the chalk which had never been disturbed a worm was cut into two at 55 inches and another was found here at Down in December at the bottom of its burrow at 61 inches beneath the surface. Lastly, in earth which had not been disturbed for many centuries a worm was met with at a depth of 66 inches and this was in the middle of August. The burrows are lined with viscid earth voided by the worm which gives at once smoothness and a certain amount of durability to the burrow."

Then, again, we must not forget the effect of harvest on the soil. Before harvest the amount of moisture retained upon the growing plant and absorbed by the still active root would prevent anything except the heaviest rain from penetrating, although even at such a time one must admit that even half a pint of water if thrown on a suitable place might travel *viâ* clay-crack and worm-burrow to a depth of five feet or more. When harvest begins not only is the earth deprived of its green protecting mantle but the upward drainage of the root action ceases and with the falling temperature of autumn and the lessened evaporation the rain which falls has an ever-increasing power of penetrating the soil. In a hop garden the first step in harvesting is the removal of the pole, and the hole thus left is capable of conducting rain water to a depth in the soil of two feet or more. *If, therefore, there be open-jointed stoneware pipes in a hop garden at a depth of two or three feet from the surface it is possible (nay, likely) that when the hop-poles are removed a surface channel three or four inches in diameter may communicate with these pipes and a heavy rain may wash solid matters into them from the surface.*

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[16] Veterinarian, September, 1898.

[17] Brit. Med. Jour., August 13th, 1898.

[18] Vegetable Mould and Earth-worms, p. 111, *et seq.*

There are other practical matters which need consideration in relation to liability of springs to suffer from surface contaminations. If a plant or tree dies—be it hop, beech, hazel or what not—the roots, instead of helping the upward drainage of the soil and preventing surface water from reaching the springs may serve as a direct guiding channel from the surface to the spring. And if the spring be artificially maintained by under-draining it with open-jointed pipes (an operation which involves a considerable disturbance of the ground and its artificial re-making) this danger is considerably increased. Burrowing animals are necessarily a danger in this connexion and if rats or rabbits establish themselves anywhere near the outcrop of a spring they must be exterminated. Rats and rabbits sometimes burrow very deeply, but I have not been able to get any authentic statement as to the maximum depth in the soil to which they may penetrate. Rats are animals which the sanitarian is bound to regard with some suspicion. In relation to the plague they seem to be a very definite danger and when they crawl from the sewers (their favourite lurking place in towns) to our houses it is possible that they may be at least as dangerous as sewer gas. Rats occasionally make their homes in dungheaps, especially if such heaps be made in outlying places and are long neglected. It is well known that they invade corn ricks in spite of elaborate precautions, but it is safe to regard the rat as a haunter of foul places and a lover of filth and its presence among us is often due to our permitting accumulations of filth and our delay in putting filth to its proper use.

Although it is probable that a very few inches of soil may, if properly tilled and cultivated, serve as an efficient protection to the subsoil water, we must nevertheless be mindful of the accidents which may serve to conduct filth from the surface to the springs. The danger of having a catch-pit flooded from the surface is one which can easily be guarded against by covering with suitable structures. The ground above the outcrop of a spring ought to be carefully turfed to a point which is six or seven feet above the level of the spring. A spring used as a water-supply must be very carefully watched. If the water become turbid or if a worm find an entrance to the catch-pit the use of such water should be discontinued or it must be boiled and filtered until the cause of the turbidity be satisfactorily demonstrated. Such springs should always be carefully inspected during heavy rains, because it is at such times especially that shallow springs establish surface relations.

The question arises whether it is safe to allow the gathering ground of a spring to be cultivated? This is a national question of the very greatest importance. No nation which is dependent upon its native soil for food production could possibly afford to raise such a question What would a Chinese say if you told him that the water of his well contained a trace of ammonia and had a permanent hardness above the local standard and therefore his tea-gardens and rice-fields must remain unmanured and be converted to permanent pastures? His answer to the "foreign devil" who ventured to propound such a theory had better go unrecorded. But in China they boil the water before drinking it and they do not seek to fix the responsibility for the absolute purity of the water of a district upon a single underpaid individual; nor do they talk about "manslaughter" when a break-down in the arrangements from some cause, natural or artificial, brings about an outbreak of disease.

Provided there be a fairly thick layer of earth above the spring I am inclined to think that there is safety rather than danger in the cultivation of the overlying soil. Any spring which is covered by seven feet of soil—that is, six inches more than the depth of the deepest recorded earth-worm, might be considered safe from the risk of unchanged organic matter soaking into it from above.[10] In the first place, the cultivation of the land ensures that it is visited more or less frequently by individuals more or less intelligent. A gathering ground for water which is remote from the haunts of man has dangers of its own. Rats or rabbits may burrow in it and these as well as other animals and birds may provokingly die in the runnels which primarily collect the rain-water and I cannot understand how anybody who has ever walked over a moor can maintain the thesis that water running off a neglected waste is safer to drink than that which has percolated through well-cultivated land.

Last year I visited a spring which was being used for public purposes and which was and had been supplying water of excellent quality. The spring which rose in a little copse lying in a natural dell in a remote and seldom visited spot was enclosed and protected against surface washings which the configuration of the ground would certainly conduct towards it in times of flood. Some of the trees were dead and their stumps and roots were permeated with fungi and were rotten and one could not but regard it as possible that these rotten roots might serve as conducting channels from the surface to the water which was running beneath to the neighbouring town. Possibly the workings of rabbits or other burrowing beasts had hastened the death of some of the trees. If so, the burrows might run very close above the gathering water. Further, there was evidence to show that this dell was visited by an occasional tramp and had been made a playground by the children from the nearest group of cottages It is clear that the non-cultivation of this particular spot was a source of danger rather than of safety to the purity of the spring.

Enteric fever is a disease especially liable to become epidemic in the autumn. The autumn is the time of year when after removal of the crops the parched earth is soaked and it is also the time of year when there are large accumulations of manurial matters waiting to be spread upon the land. In the summer the yield of springs is seldom increased no matter how heavy may be the rains. The water which falls upon the earth is all absorbed by the roots of growing plants and to a large extent mounts upwards in the plant to help metabolism and to quicken growth. With the ripening and harvesting of the crops root action ceases, water which falls upon the earth tends more and more to percolate, and when the early frosts have given their death-blow to the greenery of summer then the springs begin to rise and to yield more water. The nitrification and final solution of organic matter in the soil goes forward mainly, if not entirely, in the upper layer and it is doubtful if any appreciable amount of oxidation takes place in the parts which are beyond the reach of tillage. A certain proportion of the mineralised organic matter necessarily escapes absorption and percolates with the water and if there be much unused nitrates remaining in the soil after harvest the amount which percolates to the springs may be considerable. If nitrates be placed upon the soil in the form of artificial manures they are often dissolved and washed beyond the reach of plant roots with the first heavy shower. Not only nitrates but soluble salts of ammonia are placed on the ground in large quantities and the presence of free ammonia in the drainage water of cultivated land which has been *artificially* manured need not be an indication of pollution in the proper sense. It must be very hazardous to draw just conclusions as to the wholesomeness or otherwise of water from the amount of nitrates in it.

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[10] For the same reason, although I agree with Dr. M Cameron, I am of opinion that the first eight feet of all "shallow" wells should have an impermeable lining

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WESTON-SUPER-MARE HOSPITAL AND DISPENSARY.—The annual meeting of this institution was held on Feb. 20th under the presidency of Major Whitting. The report stated that 269 in-patients had been admitted, 542 out-patients treated, and 727 casualties attended. The members of the Provident Dispensary at the end of 1898 numbered 2279. The financial statement showed that the general receipts for the year amounted to £1909, and after meeting expenses a balance of £5 remained.

ABSTRACT OF

The Arris and Gale Lectures

ON

THE ANATOMY AND SURGERY OF THE PERITONEAL FOSSÆ

Delivered before the Royal College of Surgeons of England on Feb. 27th and March 1st and 3rd, 1899,

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ASSISTANT SURGEON TO THE LEEDS GENERAL INFIRMARY.

LECTURE I.

Delivered on Feb. 27th, 1899.

THE DUODENAL FOSSÆ; DUODENAL HERNIA.

MR. PRESIDENT AND GENTLEMEN,—The subject which I have chosen for the lectures which by the grace of the Council of this College I am permitted to deliver is the Anatomy and Surgery of the Peritoneal Fossæ. In the first lecture I propose to consider the anatomy of the duodenal fossæ and the various forms of duodenal hernia. In the second I shall describe the pericæcal fossæ and discuss the reported cases of hernia occurring in the neighbourhood of the cæcum. In the third lecture the intersigmoid fossa and intersigmoid hernia and hernia into the foramen of Winslow will be discussed.

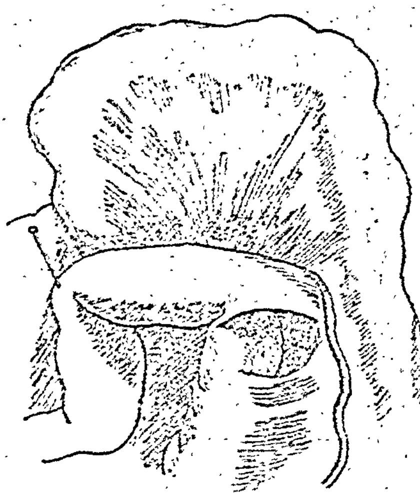
THE DUODENAL FOSSÆ.

In describing the anatomy of the various fossæ found in the duodenal region it is well to clear the ground a little by referring to the exuberant and redundant nomenclature which has been adopted by various writers at different periods. Most unfortunately the same name has been adopted to describe entirely different fossæ. The name "duodeno-jejunal" has been applied to at least three separate pouches. It is a matter of no little difficulty to choose an exactly appropriate name. I have given the most apt title first and the alternative names are mentioned in order to avoid misunderstanding. I have examined for the purposes of these lectures over 200 bodies; not consecutively, but when time and opportunity permitted. In all cases where a vestige of old peritonitis existed I have made no record. I have also examined the bodies of 34 fœtuses of all ages. The varying descriptions given by writers to the same fossa and its determining fold may be readily accounted for. The folds and fossæ vary in their appearance according to the age of the patient. In the fœtus and in children they are very distinctly and clearly seen. In the aged, owing to the deposit of fat, traction effects, and so forth, they may become considerably altered. The true typical forms are seen in the young and it is upon observation of young subjects that I have based my descriptions. I recognise the following fossæ as occurring in this neighbourhood:—(1) The superior duodenal fossa; (2) the inferior duodenal fossa; (3) the posterior duodenal fossa; (4) the duodeno-jejunal fossa; (5) the intermeso-colic fossa; (6) the infraduodenal fossa; (7) the paraduodenal fossa (the fossa of Landzert); (8) the mesenterico-parietal fossa (the fossa of Waldeyer); and (9) the para-jejunal fossa (the fossa of Brösike).

1. *The superior duodenal fossa* (recessus duodeno-mesocolicus superior) is present in from 40 per cent. to 50 per cent. of cases. (Fig. 1.) It may exist alone or with the inferior duodenal fossa. It lies to the left of the ascending portion of the duodenum. It is bounded in front by the superior duodenal fold, triangular in shape, presenting a lower free margin, slightly concave, the inner end of which is blended with the peritoneum on the duodenum and the outer margin of which is lost on the posterior parietal peritoneum.

2. *The inferior duodenal fossa* (fossa duodeno-jejunalis of Treitz; recessus duodeno-mesocolicus inferior of Brösike). (Fig. 1.)—This is the most frequent of all the peritoneal fossæ in this region, being present in from 70 to 75 per cent. of cases. It is placed on the left side of the ascending portion of the duodenum, opposite the third lumbar vertebra. The orifice looks upwards and is opposed to the mouth of the superior fossa. The fossa is bounded by the inferior duodenal fold, thin, sharp, and with a concave upper margin. The inferior mesenteric vein and the left colic artery are generally found well to the left side of the point of fusion of the fold with the parietal peritoneum. The fossa is liable to variation in size and extent. Treves has figured many of the aberrant forms. In general the first joint of the middle finger can be easily passed into the fossa. The superior and inferior duodenal folds are not infrequently blended at the outer extremities, so that a single oval orifice leads to the two fossæ. The anterior fossa very commonly extends some little distance behind the ascending portion of the duodenum.

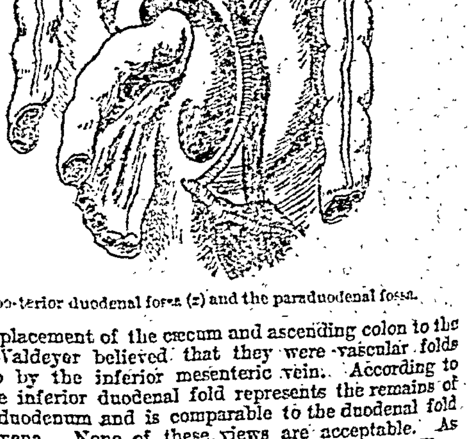
FIG. 1.



The superior and inferior duodenal fossæ.

Genesis of the superior and inferior duodenal folds.—It is to Treitz (1857) that we are indebted for the first explanation given of the formation of the folds. He considered that they were traction folds due to the dragging of the intestine in the displacement of the cæcum and ascending colon to the right. Waldeyer believed that they were vascular folds raised up by the inferior mesenteric vein. According to Treves the inferior duodenal fold represents the remains of the mesoduodenum and is comparable to the duodenal fold of the hyena. None of these views are acceptable. As shown long ago by Toldt, the folds are fusion folds. They are caused by the process of "physiological adhesion" between the original left, afterwards anterior, surface of the ascending portion of the duodenum and the right or anterior

FIG. 2.



The posterior duodenal fossa (x) and the paraduodenal fossa.

surface of the descending mesocolon, and date their origin from the time when these two peritoneal surfaces were in close apposition.

3. *The posterior duodenal fossa* (Fig. 2, *x*) (recessus duodeno-jejunalis posterior of Brösike; the fossa of Gruber).—This is a small fossa lying immediately behind the upper portion of the ascending limb of the duodenum. Its orifice is directed upwards and to the left and on its right side is the plica suspensoria, a fold raised up by the muscle of Treitz. It was described as an "accessory sac" by Gruber.

4. *The duodeno jejunal fossa* (recessus duodeno-jejunalis superior).—On dragging the transverse colon upwards and the jejunum downwards and to the right there can be seen at the root of the transverse mesocolon a fossa which results from the plunging of the duodeno-jejunal flexure into the root of the transverse mesocolon. This fossa is the duodeno-jejunal; it exists in from 15 per cent. to 20 per cent. of the bodies examined. Its lateral boundaries are two folds, the duodeno-mesocolic, which are in reality the continuations backwards of the two layers of the mesentery. The fossa is bounded above by the pancreas, to the right by the aorta, and to the left by the kidney. In the floor lies the left renal vein. The duodeno-jejunal flexure is a hernial content of the sac.

5. *The intermesocolic fossa* (recessus intermesocolicus transversus).—This is probably a modification of the last fossa; it runs horizontally in the root of the transverse mesocolon. In all cases there is a marked deviation of the duodeno-jejunal flexure to the left.

6. *The intraduodenal fossa* (fossette retro-duodénale Jonnesco).—The orifice of this fossa looks downwards; its apex reaches the duodeno jejunal angle, the muscle of Treitz, and the pancreas. It is bounded in front by the posterior aspects of the horizontal and ascending portions of the duodenum, behind by the aorta, and laterally by two folds, the duodeno-parietal.

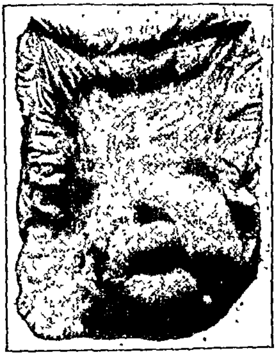
7. *The paraduodenal fossa* (Fig. 2) (recessus venosus; fossa of Landzert).—The complications of this fossa are frequent. In its typical form it may be thus described. It is placed to the left and some distance from the ascending limb of the duodenum. The fossa is caused by the raising up of a fold, the plica venosa, by the inferior mesenteric vein, a fold which may be not inaptly described as a "mesentery" for that vein. Behind, the sac is bounded by the parietal peritoneum covering the psoas, the renal vessels, the ureter, and a portion of the left kindey. Below, it is limited by the mesenterico-mesocolic fold. The orifice of the sac is wide and it looks downwards and to the right. The plica venosa consists of a vertical and a horizontal portion, the vertical being to the left and below the fossa and the horizontal bounding the fossa above. The inferior duodenal fossa may be present with the paraduodenal. In that case there is always an amalgamation of the determining folds. Such a fossa was described by Treitz and was considered by him as the normal condition.

8 and 9. *The mesenterico-parietal fossa and the fossa parajejunalis.*—These may conveniently be studied together, for they are practically the same fossa under different conditions. The fossa is situated in the first part of the meso-jejunum, immediately behind the superior mesenteric artery and immediately below the duodenum. Waldeyer who is the only observer who has noticed a fossa in this position with the intestines normal has described it as existing only in the fœtus. I have, however, seen two well-marked examples in the adult. Brösike who describes a similar or more probably the same fossa asserts that it can only be found when the first portion of the jejunum is adherent to the posterior abdominal wall. As the fossa in any case lies immediately behind the first portion of the superior mesenteric artery the jejunal adhesion is probably merely an episode and in no causal relationship with the fossa. The peritoneum of the left leaf of the mesentery lines the pouch the opening of which is to the left and the fundus to the right. A forcible enlargement of the fossa results in the lifting up of the posterior parietal peritoneum in the right half of the abdomen.

DUODENAL HERNIA.

Duodenal hernia is of two kinds. In the first the hernial sac is situated on the left side of the abdomen and in the second to the right. In both cases there may be also an upward and a downward increase, but the essential difference between the two forms lies in the varying direction of their lateral deviation. In the later stages of each the sac may practically fill the abdominal cavity. I propose to apply the terms "left duodenal hernia" and "right duodenal hernia" to the two varieties, to emphasise the fact that there is an intrinsic difference not only in the mode of growth, but also and chiefly in the points of origin of the two forms.

FIG. 3.



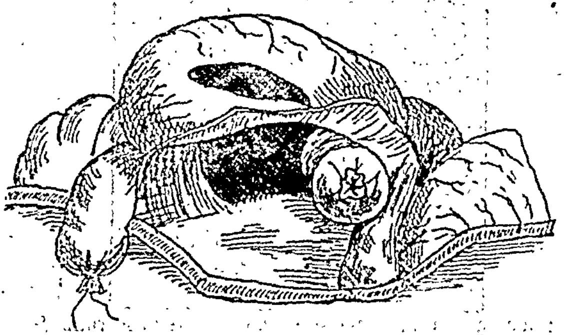
Left duodenal hernia. Mr Shattock's specimen in St. Thomas's Hospital Museum

Left duodenal hernia (Fig. 3).—This is the commoner variety; 57 cases are recorded. A perfectly typical case, for which I am indebted to Dr. T. Wardrop Griffith, is here depicted. Without discussing the matter closely it may be affirmed that only one of the fossæ above described is capable of developing into the sac of a hernia. That one is the paraduodenal fossa, or the fossa of Landzert. In all the cases recorded it has been found that in the anterior margin of the orifice of the sac lies the inferior mesenteric vein. With it for a shorter or longer distance there runs the ascending branch of the left colic artery. The anterior margin of the sac is formed, in fact, by the plica venosa. The plica venosa normally bounds the fossa of Landzert and it is in that fossa and in that fossa alone that a hernia can develop. A left duodenal hernia is characterised by three points: (1) the presence of the inferior mesenteric vein of the neck of the sac; (2) the hernia spreads either outwards towards the descending mesocolon or upwards towards the transverse mesocolon or both; and (3) the hernial sac consists of a single layer of peritoneum. Behind, the sac lies in contact with the posterior abdominal wall and in front of it there is the posterior parietal peritoneum. The orifice of the sac is situated at the back of the hernia in close approximation to the lumbar vertebræ. In a large hernia it is necessary in order to expose the neck of the sac to drag the whole tumour well over to the left side. The orifice is then seen close down to the third lumbar vertebræ. The average size of the opening is six centimetres long and four centimetres broad. The size of the hernia varies enormously. The smallest is recorded by Brösike. It occurred in a child 14 days old, and the length of intestine in the sac was between two and three centimetres. In several cases, including the first recorded by Neuebauer, the whole of the jejunum and ileum lay in the sac. As the hernia increases in size it reaches the descending colon on the outer side. In some cases the colon is pushed backwards and covered by the hernia; in other cases the hernia passes behind the colon which then lies in the anterior wall of the sac the hernial tumour appearing therefore on the outer side of the colon. The difference in the behaviour of the colon I believe to be due to the condition of its peritoneal surroundings. When no descending meso-colon is present the colon is pushed backwards by the hernial swelling; wher a descending meso-colon is present it is used up, so to spe as a covering for the sac, and the hernia passing behind A colon comes to lie on its outer side. acute

Right duodenal hernia.—This is the rare variet 13 cases, exclusive of the spec'men shown, are

This specimen, for which I am indebted to Dr. T. Wardrop Griffith, has been preserved for some years in the post-mortem room of the Leeds Infirmary. The notes of the case have not been traced, but Dr. Griffith's recollection is that the death of the patient was unconnected with the hernia. The point of origin of this hernia has never been satisfactorily explained. Jonnesco gives an unintelligible description of the process by which a left duodenal hernia is supposed to turn over to the right. Brösike believes that in all specimens which are recorded there has been a jejunal adhesion to the posterior abdominal wall. The fossa of Waldeyer (mesenterico-parietal) has entirely escaped observation by other writers. I believe it to be in this fossa that a right duodenal hernia develops. On examining the orifices of the case recorded by Dr. Barrs and the specimen placed at my disposal by Dr. Griffith this opinion seems beyond disproof. The drawing of Dr. Barrs's case (Fig. 4) shows the orifice of the sac in precisely the spot occupied by the fossa of Waldeyer. Brösike figures a case observed by himself in which the jejunum was adherent posteriorly. In order to clear up this point as to jejunal adhesion I have carefully examined the reports of all the cases recorded. In seven of them we may take it that this adhesion was present; in the remaining seven it was certainly absent. We may therefore describe two forms of right duodenal hernia, the former as hernia mesenterico-parietalis parajejunalis and the latter as hernia mesenterico-parietalis paraduodenalis. In both varieties the anterior margin of the sac contains the superior mesenteric artery. It is interesting to note that in two recorded cases, Zwaardemaker's and Neumann's, there was a twisting of the bowel at the orifice of the sac amounting, it is said, to volvulus.

FIG. 4.



Orifice of the sac of a right duodenal hernia. Dr. Barrs's case.

Diagnosis.—Duodenal hernia unless strangulated gives rise to practically no symptoms. In many cases the hernia has been found accidentally on post-mortem examination. When strangulation occurs in addition to the symptoms of acute intestinal obstruction a characteristic appearance of the abdomen has been noted. There is a tumour in the central part of the abdomen and around it a flattened area. The tumour has the following attributes. 1. It is limited to a definite region of the abdomen. In left duodenal hernia it lies at first to the left and upper, in right duodenal to the right and lower, parts of the abdomen, but in each case spreads eventually over almost the whole abdominal cavity. Around the tumour is an area of depression corresponding to the position of the colon. In size the tumour may vary. It has been described as being of the size "of a child's head." In Dr. Barrs's case it was "equal to a nine months' pregnancy." It is slightly moveable but is fixed during respiration. 2. The tumour is marked out distinctly by palpation. On percussion it is always resonant. The degree of resonance varies in different cases and in different parts of the same tumour. But the striking feature is that the tumour is a palpable, definite, resonant mass. In the centre of the tumour or over its whole mass may be seen coils of intestine. The tumour may bear a very obvious relation to the clinical condition of he patient, becoming more tense and prominent and very ch more tender when the symptoms undergo exacerbation. he symptoms decline the tumour becomes less aggres-fo- 3. On auscultation distinct gurgling sounds may be of c ywhere in the tumour.

portio portant to remember that owing to the position of The ori r mesenteric vein in the neck of a left duodenal sac the radicles of this vein may become enlarged, as in the case of the hæmorrhoidal veins, or venous trunks on the anterior abdominal wall may be so increased in size as to form a striking feature of the case.

LECTURE II.

Delivered on March 1st, 1899.

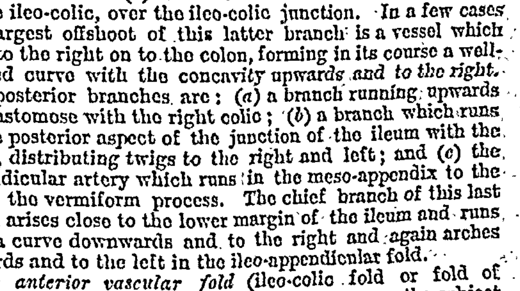
THE PERICÆCAL FOLDS AND FOSSÆ; PERICÆCAL HERNIA.

MR. PRESIDENT AND GENTLEMEN,—The pericæcal folds and fossæ are primary and secondary. The primary folds are vascular in origin; the secondary folds are dependent upon the adhesion, sometimes wanting, between the cæcum and ascending colon and the posterior abdominal wall. The primary folds are found whatever the position of the cæcum may be, the secondary are only present when the cæcum and ascending colon are normally placed. The primary folds are: (1) an anterior, raised up by a branch of the ileo-colic artery as it runs over the anterior aspect of the ileo-colic junction; (2) a posterior, raised up by the artery to the appendix; (3) an intermediate, which is partly muscular and partly vascular in origin; and (4) an accessory anterior fold due to a lateral branch of the ileo-colic artery.

The ileo-colic artery and its branches.—The ileo-colic artery as it approaches the angle of junction of the ileum with the ascending colon gives off as a rule five branches. The precise mode of origin of these branches may vary within considerable limits. The most frequent arrangement is for the vessel to divide into two main trunks which subsequently split up, the anterior into two and the posterior into three branches. The anterior branches are (*a*) a branch running to the left along the upper border of the ileum and (*b*) a branch which continues in the line of the ileo-colic, over the ileo-colic junction. In a few cases the largest offshoot of this latter branch is a vessel which runs to the right on to the colon, forming in its course a well-defined curve with the concavity upwards and to the right. The posterior branches are: (*a*) a branch running upwards to anastomose with the right colic; (*b*) a branch which runs to the posterior aspect of the junction of the ileum with the colon, distributing twigs to the right and left; and (*c*) the appendicular artery which runs in the meso-appendix to the tip of the vermiform process. The chief branch of this last vessel arises close to the lower margin of the ileum and runs with a curve downwards and to the right and again arches upwards and to the left in the ileo-appendicular fold.

The anterior vascular fold (ileo-colic fold or fold of Luschka).—This fold is constant. The younger the subject the better marked the fold as a rule. In the aged and in the obese it may become blurred and flattened, but is always present. It is semilunar in shape, having a curved attachment to the anterior layer of the mesentery, the anterior aspect of the ascending colon, and the cæcum down to the root of the appendix. The free edge of the fold containing the vessel looks to the left and is shorter than the attached margin, representing, as it were, the string of a bow. The fold is thin, sharp, and transparent in the young; thick, dull, and fatty in the aged. In its upper part are generally one or two small lymphatic glands. The ileo-colic fold is sometimes continued on into the appendix and the vessel it contains replaces the appendicular artery.

FIG. 5.



The ileo-appendicular fold and fossa and the meso-appendix.

The accessory anterior vascular fold —In 17 cases out of 200 I have met with a distinct fold raised up by the lateral branch of the anterior division of the ileo-colic before referred to A small fossa lies behind it Both the fold and the fossa determined by it have hitherto escaped recognition

The anterior vascular fossa (Ileo colic fossa; fossa of Luschka)—This is a narrow fossa or chink situated between the ileo-colic fold in front and the enteric mesentery, ileum, and a small portion of the upper and inner part of the cæcum behind

The posterior vascular fold, meso appendix (Fig 5) —To see this fold clearly the cæcum and appendix must be turned upwards It is quadrilateral in shape Its superior border springs from the mesentery; the right is attached to the colon on its postero internal aspect for a short distance and then to the cæcum; the inferior to the whole length of the vermiform appendix; the internal or left border is free and contains the appendicular artery The anterior surface is joined by—

The intermediate fold (Fig 5); *ileo appendicular fold* (Bloodless fold of Treves)—This is quadrilateral in outline The upper border is attached to the ileum, opposite the mesenteric attachment for about from one inch and a half to two inches and a half, the lower border extends from the angle formed by the appendix with the cæcum inwards on the anterior surface of the meso appendix, or occasionally on the appendix itself, the outer or right margin is attached to the inner aspect of the cæcum as far down as the root of the appendix, the left or inner border is concave and free This latter edge contains the recurrent, or ileo-appendicular, artery given off from the appendicular vessel close to the lower margin of the ileum Between the two layers of peritoneum in this fold especially in children, are seen some muscular bundles continuous on the one hand with the cæcum, and on the other with the ileum In later years so much fat may be deposited between the layers that it forms a solid slab resembling a miniature thickened omentum

The ileo appendicular fossa (ileo cæcal fossa) —This fossa lies between the ileo appendicular fold and the mesentery of the vermiform appendix On section it is triangular, being bounded above by the posterior surface of the ileum and the mesentery, in front and below by the ileo appendicular fold, and behind by the upper part of the meso-appendix Two cases are recorded in which it is believed that this fossa has become closed at its mouth and subsequently dilated to form a cyst (Schott, Widerhofer)

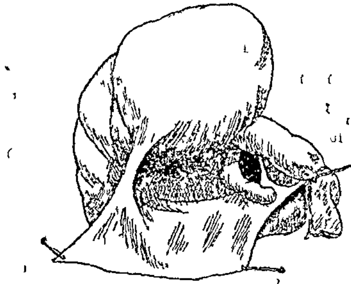
The fossa of Hartmann (fossa ileo cæcalis infima) —In some cases the lower attachment of the mesentery to the iliac fossa is prolonged into a sharp fold, the "inferior ligament" of Tuffier Between this fold and the vermiform appendix there may be found a small fossa, funnel shaped in general but occasionally sub-divided by a small peritoneal fold (Leichtenstern)

SECONDARY FOLDS AND FOSSÆ

On lifting up the cæcum there may be seen:—

The retro colic fossa (Fig 6) of variable size and capacity In some cases the whole length of the index finger can be comfortably laid in a sort of peritoneal tube which extends upwards to the kidney In others there may be merely a narrow and shallow dimple that would contain the tip of a lead pencil This fossa is bounded and determined by two folds—(1) an outer and upper and (2) a lower and inner

FIG 6



The retro-colic fossa

1 *The parieto colic fold* (fold of Hensing, superior ligament of the cæcum) —Roughly triangular in shape, this fold contains some tough, strong shining, fan shaped fibres Its posterior border is attached to the abdominal wall from the lower border of the kidney over the iliac crest of the iliac fossa; the anterior or internal border is attached to the postero external aspect of the colon, extending not seldom on to the cæcum also, the lower free border or base is concave and extends from the iliac fossa to the intestine The summit or apex is firmly fixed in the lumbar fossa

2 *The mesenterico parietal fold* (inferior ligament of Tuffier) —This is in reality the insertion of the enteric mesentery into the iliac fossa In some cases it is prolonged downwards as far as the inguinal canal in the plica genito-enterica of Treitz These two folds may be each continued downwards and may coalesce in the formation in the iliac fossa of a falciform fold In such a case the fossa formed by them would be retro-cæcal, not retro-colic

Fossa iliaco subfascialis (fossa of Biesiadecki) —This is situated about the middle of the iliac fossa, its orifice is directed upwards and is bounded in front by a more or less well defined fold, the inner extremity of which is directed upwards over the psoas towards the root of the mesentery and the outer extends towards the iliac crest The fossa is about from one and a half to two inches in diameter and is placed at the junction of the upper loose iliac fascia and the lower tense and more firmly fixed portion

Genesis of the folds —The ileo colic fold and the meso-appendix are vascular in origin The ileo appendicular fold is more difficult to account for Luschka believed that it was muscular in origin Treves asserted that it was the true mesentery of the appendix, the meso appendix being a substituted mesentery Jonnesco and Berry consider that the fold is a subsidiary mesentery of the cæcum Without entering into the reasons I may say that my view is that the fold is of dual origin, that it is primarily muscular, dependent upon the ileo-appendicular muscle and that later its development is modified by, and attributable to, the ileo appendicular vessel This fold is the last to appear in the embryo; it is less constant than the meso-appendix, and it receives its vessel (upon which it to some extent depends for its existence) from the posterior vascular fold

With regard to the genesis of the retro colic fossa and the parieto colic fold I have already stated that they are secondary and are due to the coalescence sometimes wanting, of the posterior surface of the ascending colon, and sometimes, though rarely, of the cæcum to the posterior wall of the abdomen

PERICÆCAL HERNIA.

So far as I am aware there are no cases on record which can be considered as hernial protrusions into either the anterior vascular fossa or the accessory anterior vascular fossa The fossæ are only of anatomical interest They have no pathology

With regard to the ileo appendicular fossa I have already referred to its cystic dilatation In four cases it has been the seat of a hernia

CASE 1 —This case was recorded by Tuffier in a meagre and unsatisfactory manner The patient was a man, aged 50 years who was very stout An intestinal loop which measured eight centimetres was contained in this pouch which was very dilated

CASE 2 —The specimen is in the Musée Dupuytren (*pièce de Michon*) This is referred to by Tuffier as a true specimen of ileo appendicular hernia Jonnesco says of it that it is not very convincing'

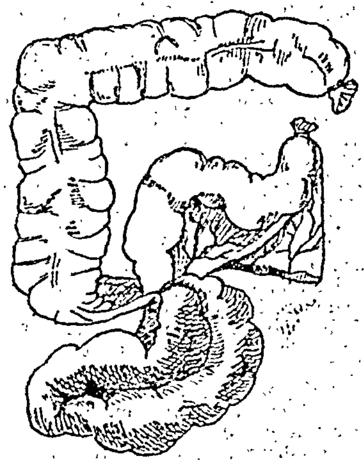
CASE 3 —This case was recorded by Dr Little, Fig 7 shows the condition The patient was a man, aged 60 years, powerfully built For nine days there were symptoms of intestinal obstruction, terminating fatally "From a point near the tip of the vermiform appendix a narrow but strong whitish band is seen passing to an attachment into the front of the ileum, at a distance of about two inches from the termination of the latter gut" A large loop (16 or 18 inches in length) was strangled by this band which is evidently the ileo-appendicular fold The case is very fully and graphically described and remarks are made on the anatomy of this region

CASE 4 —This case was recorded by Mr Partridge A maid servant, aged 26 years, died after five days acute obstruction. A knuckle of the ileum immediately above its termination was found to be strangulated and much congested in consequence of having passed through, and become impacted in, a hole or interspace in the mesentery of the vermiform appendix. The specimen is said to be in the King's College Hospital Anatomical Museum, but it cannot be traced.

There are also many cases of hernia of the vermiform appendix into the pouch.

Hernia into the retro-colic fossa.—Jonnesco accepts the following as genuine cases of hernia into this fossa: one by Fages; one by Wagner; one by Parise; three by Rieux; one by Engel; one by Klebs; one by Moxon; one by Josse; and one by Furst. On careful perusal of these cases the only ones which can be accepted as being even possibly of this class are the last two recorded by Rieux. All the others are negatived either by paucity and inexactness of description, or they belong quite obviously to a different variety altogether. Moxon's case, recorded by Pye-Smith, is in the Guy's Hospital Museum. It is a beautiful example of right duodenal hernia and has no connexion whatever with the cæcum.

FIG. 7.



Dr. Little's case of ileo-appendicular hernia.

Hernia into the fossa of Biesiadecki.—One example of this was exhibited at the Pathological Society of London by Dr. Mott. It was seen and recognised by Mr. Treves as a hernia into the fossa iliaco-subfascialis. A case recorded by Engel is very probably also of this variety.

Hernia into the fossa of Hartmann.—One case has been recorded by Dr. Snow. A woman, aged 24 years, when in the eighth month of pregnancy was seized with acute abdominal pain which was followed by symptoms of intestinal obstruction, ending fatally on the fourth day. The record of the post-mortem appearances is rather bewildering. I think, however, that only one conclusion is possible and it is that the hernia occurred into the fossa of Hartmann. The case is so accepted by Leichtenstern.

ON THE USE OF DIPHTHERIA ANTITOXIN IN GENERAL PRACTICE,

WITH THE RESULTS OF THE TREATMENT OF 122 CASES OF DIPHTHERIA.

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IT is now generally recognised by the medical profession that the treatment of diphtheria by the injection of antitoxic serum gives far better results than any other treatment and lowers the mortality of the disease in a very marked manner. Antitoxin is now extensively employed in all our large hospitals with a diminishing death-rate, yet judging by the mortality from diphtheria in our large towns and popular centres I cannot help coming to the conclusion that the general practitioner does not employ it as often as he ought and that some do not employ it at all. This has led me to hope that my own experience in the treatment of over 120 cases occurring in my own practice during the last 18 months may prove interesting to brother practitioners and may induce some who have not yet given antitoxin much of a trial to do so at the earliest opportunity, and the result will, I am sure, be a diminished mortality from diphtheria in their own practices.

Up to June, 1897, I had no opportunity personally of judging of the value of antitoxin in the treatment of diphtheria, but during that month and the following months of 1897 an epidemic of that disease occurred in my practice, and I was able to form my own opinion of the value of antitoxin and to watch cases going on side by side, the severe cases being invariably injected by me and the mild cases being treated by the internal administration of perchloride of iron combined with acetate of ammonia (10 minims of the solution of perchloride of iron and one drachm of the solution of acetate of ammonia to half an ounce of water, to be taken every four hours for a boy of 16 years, dose in proportion to age). From June 27th up to Dec. 17th, 1897, I treated in all 42 cases of diphtheria. Of these I injected 22 cases, and did not inject 20, and there occurred six deaths. A glance at the subjoined table will show the relative proportion of deaths in the injected and non-injected cases:—

—	—	Recovered.	Died.	Mortality per cent.
Total number of cases treated from June 27th to Dec. 17th, 1897	42	36	6	$14\frac{2}{7}$
Severe cases and therefore injected with antitoxin serum	22	20	2	9
Mild cases (apparently) and therefore not injected	20	16	4	20

This table shows a total mortality of $14\frac{2}{7}$ per cent. with a 9 per cent. mortality for the more severe and injected cases and a mortality of 20 per cent. for the more mild and non-injected cases. This table in itself shows the value of antitoxin by the lower mortality of the cases in which it was used and when it is borne in mind that the injected cases were by far the worst cases it is evident that the saving of life must have been very considerable.

TYPES OF CASES INJECTED.

CASE 1.—The patient was a female, aged 19 years, who was first seen on July 18th, 1897, at 9 P.M., and who had a suspicious throat. On the 19th at 11.30 A.M. there were three distinct patches on the left tonsil and two on the right. The temperature was 98° F.; the pulse was feeble. 1500 units of antitoxic serum were injected. On the 20th, 24 hours after the injection, there were no patches at all and the patient felt much better. She made a rapid recovery. This case was seen during the first 24 hours of the disease; injection was early resorted to and hence the membrane disappeared early. The diagnosis was confirmed by subsequent bacteriological examination.

CASE 2.—A male, aged 20 years, was first seen at 4 P.M. on June 26th, 1897. There were suspicious but distinct patches on both tonsils which were enlarged. The temperature was 100·5° F. At 9 P.M. on the same day the patches were quite distinct and were larger and the temperature was 101°. 1500 units of antitoxin were injected. On the 27th at 9 A.M. (12 hours after the injection) the temperature was 101°, one patch was smaller, and a new patch was to be seen growing. At 9 P.M. (24 hours after the injection) the temperature was 103° and the patches were more distinct and were larger, but the patient expressed himself as feeling better. On the 28th, at 9.30 A.M. (36 hours after the injection), there was a speck of membrane at one spot in his throat and all the other patches were gone. The tonsils were red. The temperature was 98·7°. In the evening of the same day (48 hours after the injection) there was not a speck in the throat and the temperature was normal. On the 30th the tonsils were still enlarged but otherwise normal. On July 4th the tonsils were of normal size. This case was seen on the second day of the disease when the antitoxin was injected and the membrane had gone within 48 hours of the injection. The temperature went up during the first 24 hours after the injection, afterwards lowering.

SE 3.—The patient, a female, aged 13 years, was seen June 30th, 1897, at 1.30 P.M. The temperature was F. and the pulse was 120 and weak. Three well-defined wish-grey patches presented on the left tonsil and there three smaller ones on the right tonsil. Both tonsils enlarged and painful. The patient was hoarse. At M. I injected antitoxin. The patient was worse. At P.M., eight hours after the injection, the tonsils were ger and more swollen; the patches on the left were much ger and dirtier and on the right they were also confluent. e temperature was 102° and the pulse was 120. The lent was rather hoarser and her breathing was short. On y 1st, at 9.30 A.M. (18 hours after the injection), the temperature was 99°. The patches were to be seen dissolving; y were thinner and smaller, especially at the margins, d only two were left *on the left tonsil*, the right tonsil ing clear. The patient was not so hoarse. At 10 P.M. e was much better. The temperature was 99°. Two small tches on the left tonsil only remained. On the 2nd at 30 A.M. (40 hours after the injection) there was only a very nall patch on the left tonsil and at 10 P.M. (a little over *3 hours after the injection) there were no patches at all.* n the 4th the patient got up out of bed and she did well. he was a very delicate girl and she had suffered from hronic enlargement of the tonsils for years. The diagnosis as confirmed by bacteriological examination.

CASE 4.—The patient in this case was a female child, ged four years. I injected antitoxin on the third day of er illness. Both tonsils were covered with membrane, the reathing was rapid and stertorous, and the larynx was also ffected. Distinct improvement took place within 24 hours of the injection although the case was a very bad one, and the patient continued to make rapid progress. The throat and larynx were clear within 60 hours of the injection, and on paying my visit on the fourth day I found the patient downstairs and apparently quite well though a little feeble. She made an uninterrupted recovery.

CASE 5.—The patient, a female child, aged three years, was very hoarse when first seen. The tonsils were enlarged and membrane was filling the throat. The breathing was very laboured, stridulous, and rapid. The patient seemed quite "choked-up." The pulse was very rapid. I injected antitoxic serum at once, it being the third or fourth day of the illness. She remained very ill and in great danger for 24 hours and then she made a rapid recovery. The throat was quite free from membrane within three days of the injection. She developed post-diphtheritic paralysis which persisted for a few months but which eventually disappeared and left her quite as well as before the illness. From the history this appeared to be a case which was primarily laryngeal and secondarily pharyngeal.

CASE 6.—This was a very bad case. The patient was a male, aged nine years. When first seen his breathing was very short. There was a large patch about three-quarters of an inch in diameter on the soft and hard palates following large patches on the tonsils. After the injection of antitoxin rapid recovery took place.

CASE 7.—A male child, aged two and a quarter years, was taken ill on Dec. 7th, 1897, and was supposed to be suffering from a bad cold. On Dec. 10th I was sent for. On that day at noon I examined the child and found an enlargement of the glands at the angle of the jaw and a swelling of the neck. The breathing was short, stertorous, and croupy. On examining the throat internally I found extensive membrane on both tonsils and filling up the throat. I injected antitoxin at 6 P.M. (the fourth day of illness) when he was breathing with difficulty and his pulse was very rapid and feeble. He had a very restless night. On the 11th the throat was still full of membrane, which, however, showed a tendency to separate (less than 24 hours after the injection). On the 12th there was improvement in the patient's condition and on the 13th he was much better. The membrane was disappearing, some being left on one side of the throat only. On the 14th (less than four days after the injection) there was no membrane. On the 15th the child appeared very well. There was a much stronger pulse. The patient developed post-diphtheritic paralysis, but eventually he got all right after a few months. This was a very bad case. The antitoxin was not injected until the fourth day of the illness and yet the patient did very well.

TYPES OF CASES NOT INJECTED.

CASE 1.—The patient was a male, aged 13 years. There were patches on one tonsil. This was a mild case. I prescribed seven minims of the solution of perchloride of iron and 30 minims of the solution of acetate of ammonia to half an ounce of water every four hours. The throat cleared in *from three to four days.*

CASE 2.—A male, aged 11 years, was taken ill on Sept. 24th, 1897. He was seen by me on Sept. 26th, when I *found a fair pulse, patches on the tonsils*, and the general condition pretty good. I did not think him ill enough to order an injection and therefore ordered perchloride of iron and acetate of ammonia and brandy. On the 27th the patches in the throat were larger and the pulse was not so good. On the 28th there were large new patches, the pulse was feeble, and the heart was inclined to be weak. On the 29th the patches were beginning to grow smaller. They were still present on the 30th and there was a fresh one on the uvula. The general condition of the patient was not so *satisfactory as one* would wish. On Oct. 1st there were two patches on the uvula. The patches on the tonsil were thinner. The heart was slow and weak. On the 3rd the patches had nearly gone but there was *a trace on the right* tonsil. The patient's general condition was improving. On the 4th the patches had disappeared and improvement was *still going on.*

This case which equalled in its severity at the onset some of the very mildest cases injected does not compare favourably in its clinical history with the more severe injected cases. The patches, instead of clearing up in two or three days at farthest, as would probably happen with antitoxin, took seven days to disappear and they spread on to the uvula in addition and the condition of the patient was also critical for a few days from weak and slow heart.

CASE 3.—The patient in this case was a female, aged four years. When I saw her on Sept. 27th, 1897, there were small patches on the tonsils. I ordered perchloride of iron and acetate of ammonia and brandy every four hours. This was an apparently mild case. On the 28th and 29th the patches were larger and the pulse was feeble. On the 30th the throat was much the same, but the patient was better in herself—her general condition had improved a little. On Oct. 4th the patches still persisted and the patient was much the same. On the 5th the patches had nearly gone and there was slight improvement. On the 6th the patches had disappeared and the patient was all right.

The patches took nine days to clear up and the patient was in a feeble condition throughout, giving me more anxiety for a time than the very bad injected cases had done.

CASE 4.—The patient was a male, aged 18 years, who was seen by me on Sept. 29th, 1897. There was a patch in the throat. I ordered the mixture as in the previous cases. On the 30th there were a few patches. On Oct. 1st the patches were much the same, on the 2nd they were not so large, on the 3rd they were fading, and on the 4th they had gone.

In this case, which was a very mild one in an adult, it took five days for the patches to disappear.

CASE 5.—The patient was a male, aged five years. On Oct. 6th, 1897, the throat was inflamed, but there were no patches. I ordered the same mixture as in the previous cases. On the 7th there were well-marked patches on both tonsils and the breathing was rapid and feverish. On the 8th the patches were well marked and the heart was weak. He recovered slowly and gave me much anxiety owing to his heart becoming very feeble, and there were still thin patches on the pillars of the fauces on Oct. 14th, eight days from the onset of the illness and from the time when treatment commenced. He eventually got all right.

NOTES OF ALL THE FATAL CASES.

Fatal cases injected.

CASE 1.—I was called to see the patient, a female, aged two years, at 5.30 P.M. on June 30th, 1897. The pulse was rapid and the temperature was 98° F. The breathing was croupy, respiration was very rapid and difficult, the throat was a good deal swollen externally, and there were enlarged glands. On examining the throat internally I found it to be full of yellowish-grey patches scattered over both tonsils which were also enlarged. The larynx was evidently primarily badly affected and the disease was now spreading to the throat (the patient had been ill for a few days). At 7 P.M. I injected 1500 units of antitoxin. At 10.30 P.M. she was more collapsed than she had been. The temperature was 97° and the breathing was very stertorous and difficult. On examining the throat I found the patches to be confluent and the throat to be simply full of dirty membrane and slough. The child was gasping and appeared to be almost dead. There was great sucking in of the intercostals. I injected 1500 units more of the antitoxin. On July 1st, at 1 P.M. (17 hours after the first injection) I found the child still alive. The throat was almost clear of membrane and the breathing was very much easier and slower but the child was sinking and almost dead from exhaustion and heart failure. The temperature was 100°.

In this case it was evident that I had been called in too late, yet though the case was so severe and the child was nearly dead when first seen she lived until the following day and died when the disease was practically gone, 17 hours after the first injection. I thought she would have died fully 12 hours sooner.

CASE 2.—A female child, aged 15 months, was seen by me on July 25th, 1897, and was found to be suffering from a very bad attack of membranous croup. To all appearances she was dying. There was great sucking in of the intercostals in respiration. I injected antitoxin. On the 26th the breathing was better, but the child was very weak and collapsed and eventually she died of collapse and exhaustion 24 hours after the injection.

It will be noticed that in this case the patient lived for 24 hours after the injection of the antitoxin.

Fatal cases not injected (practically).

I look upon the following four cases as not injected, as they were treated with the solution of perchloride of iron and the solution of acetate of ammonia for several days and then injected when too late to be of value.

CASE 1.—I was called in to see a male child, aged four years, who was known to have been suffering from diphtheria for five days at least and after he had been treated with local applications to the throat and the solution of perchloride of iron internally. I found large dirty-greyish patches on both tonsils; they were distinctly membranous. I ordered the solution of perchloride of iron and the solution of acetate of ammonia and brandy internally. The pulse was feeble. On the following day more membrane was discovered in the throat and the pulse was weak. On the eighth day of illness (the third day of my attendance) the membrane was still there and the patient was getting much weaker. I injected 1500 units of antitoxin. On the ninth day the throat showed improvement, but the patient had developed passive congestion of the lungs. On the tenth day he sat up in bed at about 3 A.M. and fell back dead.

This was a case to which I was called not sooner than the sixth day of the disease. As the patient had already been attended by a medical man I unfortunately did not inject antitoxin when called in but left him for two more days without injection. It was quite impossible to keep this patient in bed and whenever I called to see him he was always dressed and lying on the sofa or sitting or walking. His parents did not seem to realise that there was much danger although I impressed it on them daily. If the antitoxin had been injected a few days earlier I believe he would have recovered.

CASE 2.—The patient was a male, aged four years, who was just recovering from scarlet fever. He was first seen on Sept. 21st, 1897. There were two large patches on the tonsils. I suspected diphtheria and I put the patient on perchloride of iron and acetate of ammonia. On the 22nd he was seen by my assistant and was reported as being much better. When I next visited him (on the morning of the 24th) I found him *to be very ill indeed. The throat was* almost choked up with membrane and the neck was swollen; breathing was difficult and very short and rapid. The pulse was weak and irregular. I injected antitoxin (fifth day). He had a bad night. On the 25th he was rather better; the patches were disappearing and the breathing was easier. He got up out of bed to micturate and was taken suddenly worse. He died in the evening from heart failure—30 hours after the injection.

The fact of the patient having been left too long before the injection of the antitoxic serum may perhaps be held accountable for the fatal issue in this case.

CASE 3.—The patient, a male, aged three years, was first seen on Oct. 4th, 1897. The throat was inflamed and there was a patch. The mixture and the brandy were ordered as in the former cases. On the 5th there were well-marked patches and the patient was feverish. On the 6th he was worse and the patches were larger. On the 7th the patches were fading anteriorly in the throat but they were still well marked posteriorly. On the 8th he appeared to be better but still there were patches present. On the morning of the 9th he was better. At 7 P.M. the breathing was noticed to be difficult and croupy and he became more restless and got gradually worse until I was sent for at 7 A.M. on the 10th. I found that the membrane had extended into the larynx and I injected antitoxin, but he got gradually worse and died 24 hours afterwards from asphyxia and exhaustion.

On Oct. 7th, 8th, and 9th the patient had appeared much better and had cried the greater part of the time, wishing to get up. This was in the early stages of the illness. It was a comparatively mild case and the patient would, I feel certain, have recovered with the injection of antitoxin earlier.

CASE 4.—The patient was a female, aged one year and 11 months. On Oct. 4th, 1897, the throat was bad, there were patches, and the neck was swollen. On the 5th, there were well-defined patches on both tonsils, and on the next day they were more marked. On the 7th, large greyish yellow patches, were raised up on both tonsils. The pulse was rapid and weak. On the 8th the patient was very ill. The throat was full of membrane, extending to the larynx. On the 9th she seemed a little better; there was less membrane in the throat. On the 10th I was sent for at 5 A.M., when I found the breathing to be difficult and croupy. At 7 A.M. I injected antitoxin. She got gradually worse; stridor and difficulty of breathing set in, the larynx got choked up, and she died from asphyxia at noon. The throat was full of membrane up to the end.

This case did not seem to be a very severe one at the beginning, so I treated it with the mixture and the brandy as in the other cases, and injected antitoxin when too late (on the sixth or seventh day). If it had been injected earlier the patient would probably have done well.

A glance at the clinical history of the above types of injected and non-injected cases will show that the injected cases (although much more severe) did much better than the non-injected cases and that they recovered in a much shorter time and gave me much less anxiety. The throat cleared up in the injected cases on an average in less than half the time which it took to clear up in the non-injected, and I felt quite happy about the injected cases after the first 24 hours, as a rule, while I never knew what was going to happen to the non-injected cases often for more than a week. The four fatal non-injected cases quoted above show the dangers of leaving even a mild case for any length of time non-injected, and it was the history of these four cases that led me to use antitoxin more frequently and with much better results from that time up to the present. The average time for the membrane to disappear from the throat after injection was two and three-quarter days; in the non-injected cases it averaged five and two-third days from the commencement of the treatment. The disappearance of the membrane seemed in both classes to mark a distinct improvement in the patient's condition; in the injected cases the patient was practically convalescent then, while the weak heart caused anxiety for some time longer in the non-injected cases. In the former class the patients were generally going about during the second week, while in the latter it was often not until the third or fourth week. The great danger in the non-injected cases, however mild apparently, was the shaky and feeble heart. Very rarely was there this danger in the injected cases after the first day or two. As a matter of fact, I often found the latter going about against orders after the first two or three days and yet there were no bad effects. The subjoined table tabulates these points and shows at a glance the value of antitoxin:—

—	Severe cases injected.	Mild cases non-injected.
Disappearance of membrane averaged... ...	2¾ days.	5⅔ days.
Recovery...	1 to 2 weeks.	2 to 4 weeks.
General condition during attack	Good after the first day or two.	Unsatisfactory for a week or two.
Condition of the heart	Regular and satisfactory after the first few days.	Shaky and weak for over a week and unsatisfactory for a week or more longer.
How long confined to bed...	One week or so.	2 weeks or more.
Mortality	9 per cent.	22 per cent.

My experience in these 42 cases taught me the value of antitoxic serum in the treatment of diphtheria and taught me to inject it in all except the very mildest cases with a much lower death-rate than in these 1897 cases. A large number of these cases were examined bacteriologically for the diphtheria bacillus and it was found in nearly every case examined.

During 1898 from Jan. 1st to Dec. 31st I treated in my practice 80 cases of diphtheria, many of them of a very severe type and primarily laryngeal and the very worst forms of the disease, and I had only three deaths during that period, or a mortality of 3¾ per cent. Of these 80 cases I injected 55 and treated the other 25 with the solution of perchloride of iron and the solution of acetate of ammonia and brandy internally and did not inject the antitoxin—i.e., I injected 68¾ per cent of the cases. In two of the fatal cases the parents refused to have the antitoxin injected when I wished and advised it and although I warned them that their children would most likely die if they persisted in refusing an injection. After losing three or four days of valuable time they consented, but it was too late and the children died. In the third fatal case the boy was injected *once* and the case being a very bad one I advised a second injection which the parents refused to agree to and the patient died. I believe that he would have recovered with a second injection. Hence but for the ignorance and prejudice of the parents of these three children the mortality in 1898 would probably have been *nil*. As it was it was only 3¾ per cent., compared with 14¾ per cent. in 1897. These three deaths occurred in January, 1898, and from Jan. 26th to Dec. 31st of that year 72 consecutive cases were treated without a single fatality and I attribute this to the injection of antitoxin in a very large proportion of the cases. The subjoined table shows the proportion of cases injected:—

—	—	Re-covered	Died	Mortality.
Total number of cases treated from Jan. 1st to Dec. 31st, 1898	80	77	3	3¾ per cent.
Severe cases injected	55	54	1	Under 2 per cent.
Mild cases non injected	25	23	2	8 per cent.

I look upon the two who refused injection until too late as non-injected

In 1897 I injected 52 per cent. of all my cases, while in 1898 I injected 68¾ per cent. of my cases; hence the mortality in 1898 of 3¾ per cent. compared with 14¾ per cent. in 1897 Taking the whole of the cases treated from June, 1897, to Dec 31st, 1898, with and without antitoxin, there were 122 cases with nine deaths, or a mortality for the whole period of 7½ per cent.

On referring to the annual report of the medical officer of health for the Rhondda Valley for the year 1897 I find that during the year there were reported in that district 247 cases of diphtheria with 78 deaths, or a mortality of over 30 per cent. Dr. Louis Cobbett's paper in THE LANCET of Dec. 3rd, 1898, in comparing the mortality of London from diphtheria with that of Berlin gives the deaths in London in 1897 as 2328 out of a total of 13,192 cases reported, or a mortality of over 17½ per cent. A glance at these mortalities seems to me to have but one explanation—viz., that the general practitioners of the day do not employ antitoxin as often as they ought to do in the treatment of diphtheria and do not seem to recognise the value of the sovereign remedy which they have at their disposal.

In my cases I injected 1500 units of antitoxic serum (Burroughs, Wellcome & Co) under the skin of the abdomen and I always used the liquid, not the dried, serum. This I found generally enough to cure the patient and in only *five* cases out of the 77 injected was a second injection called for after an interval of from two to three days. If the patient does not show a marked tendency towards improvement within 24 hours of the first injection or if the membrane does not clear up by the third or fourth day a second injection is indicated

Nine of my cases developed post-diphtheritic paralysis and one of them, a very delicate child, developed pneumonia about the ninth week and died. I have not seen any bad effects follow the use of antitoxin Rashes occurred in some of the cases—in one instance typically scarlatinal and accompanied by acute pains in the joints with tenderness and an elevation of temperature. This occurred about 10 days after the injection of the antitoxin and passed off in a couple of days. I also noticed the elevation of the temperature during the first twenty-four hours after injection, and after that a distinct lowering and the patients nearly always expressed themselves as feeling better within 12 hours of the injection.

The question may be asked, Ought antitoxin to be injected in every case of diphtheria? Some of the cases are sufficiently mild, in my opinion, to recover without it, so I will not go so far as to say that it is absolutely essential to inject in every case, although I would call it an excellent practice to do so and the patients would make much more rapid recoveries. I think that in every case, however mild, the patient ought to have the option of an injection and that injection ought to be insisted upon as early as possible in every case that is at all severe or likely to prove so and I think that the medical man who does not employ antitoxin and who loses a large proportion of his cases is incurring a responsibility which is almost criminal. The earlier a patient is injected the greater is the chance of recovery and the more rapid is the recovery.

Forty of the 1898 cases occurred in a branch practice and my success in their treatment is due in a great measure to the careful diagnosis and help rendered by my branch assistant, Mr. J. W. Collingwood Barrett. I might add that I invariably kept my patients on perchloride of iron and acetate of ammonia and brandy administered internally in addition to injecting them.

Treorky, South Wales.

OBSERVATIONS ON THE CEREBRO-SPINAL FLUID IN THE HUMAN SUBJECT.[1]

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ONE of us (Dr. StClair Thomson) has had under his care for some years a young woman who has suffered from continuous dripping from the nose. The case has not been amenable to any treatment. At first it was thought to be one of nasal hydrorrhœa but certain characters in the affection convinced the observer that this could not be so and that the fluid (which dropped from one nostril only) was cerebro-spinal fluid. This was supported by the results of the chemical examination of the fluid. The escape of cerebro-spinal fluid from the nose has long been known to follow traumatic injury to the cribriform plate of the ethmoid bone, but the possibility of its spontaneous escape from the nose does not appear to have been fully established before the present instance. However, considerable research into the literature of the subject has shown that there are several cases recorded in which, though no history of injury existed, the flow of fluid from the nose was of such a character that they must have been similar to the present case, although in the majority of instances the true nature of the fluid escaped observation.

Many of these patients exhibited cerebral symptoms in the course of the disease, and some ultimately died from inflammation of the cerebral meninges, which had probably spread from the nose through some opening in the bony lamina that normally separates the cranial and nasal cavities. The full clinical details of this rare case and of the similar ones just referred to are, however, reserved for publication elsewhere The present paper is concerned only with the composition of the fluid and the variations it presents under different circumstances

Characters of the Fluid.

Our opportunities for examining the fluid chemically have been fairly frequent. The fluid was always collected in sterilised glass vessels and the examination was made as soon as possible by one of us (Dr. W. D. Halliburton) at King's College, London. The fluid is perfectly clear and colourless, looking like water; its reaction is faintly alkaline; its specific gravity is about 1005. On microscopic examination it shows no cells or other deposit. It gives no precipitate with acetic acid. It contains a trace of proteid, coagulable by heat, but the quantity is too small to give more than an opalescence. In another portion of the fluid it was ascertained that this proteid is precipitable by saturation with magnesium sulphate; it is therefore a globulin. Albumin and other proteids are absent. The fluid contains a substance which reduces Fehling's solution. A portion of the fluid was treated with excess of acidified alcohol; the proteid so precipitated was filtered off. The filtrate was evaporated to dryness over a water bath; the dry residue was taken up with alcohol, filtered, and again evaporated to dryness. Part was evaporated to dryness on a glass slide; the residue examined microscopically was seen to contain the needle-like crystals, occurring singly and in bundles, similar to those previously described and figured by one of us (Dr. W. D. Halliburton)[2] as obtainable from cerebro-spinal fluid. The residue had also the characteristic pungent taste of pyrocatechin. The remainder of the dry residue was dissolved in water and filtered. The filtrate reduces Fehling's solution well, but it does not ferment with yeast nor does it give any osazone crystals on treatment with phenylhydrazine hydrochloride and sodium acetate. Control experiments with a weak solution of dextrose, which gave about the same amount of reduction with Fehling's solution, gave both these tests in a typical way. The fluid was tested for creatinine with negative results.

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[1] A paper read before the Roy... Fibros... Brit. Med. Jour., p. 314, where an illustration is

The same results relative to the reducing substance have been obtained over and over again in various specimens of this fluid. They agree with the observations of nearly all writers on the cerebro-spinal fluid, but differ from those of Nawratski[3] who in a recent paper has affirmed, principally from observations on the cerebro-spinal fluid of the calf, that the reducing substance present is dextrose.

The principal points to be noticed in the properties of the fluid which lead to the conclusion that it is cerebro-spinal fluid are the following: (1) its clear, watery character; (2) its low specific gravity; (3) the small amount of proteid in it and the absence of albumin; and (4) the presence in it of a substance which reduces Fehling's solution, but is not dextrose—it is possibly a substance related to pyrocatechin. In comparison with this fluid we examined also the secretion in some cases of true nasal hydrorrhœa. This fluid is opalescent, somewhat viscid, and on microscopic examination shows amorphous matter with mucous corpuscles. It gives with acetic acid a precipitate of mucinoid nature. It sometimes does and sometimes does not contain a reducing substance, and this substance when present is sugar. A quantitative analysis of one of these nasal fluids showed that the percentage of solids, especially organic solids, is higher than in cerebro-spinal fluid. The results of the analysis are as follows:—

Water	93·792	per cent.
Total solids	1·208	,,
Proteids (including mucin)	0·260	,,
Other organic substances	0·163	,,
Inorganic substances	0·785	,,

Our observations on the characters of the cerebro-spinal fluid were followed by others in which we sought to answer the following questions: the rate of flow; the difference of composition at different times of the day; the influence of straining, posture, and abdominal compression on the flow and composition of the fluid; and the effect on blood-pressure of intravenous injection of the fluid in animals.

The Rate of Flow.

One portion, collected by the patient herself in the course of an hour, measured four cubic centimetres. Another portion, collected under the supervision of one of us (Dr. StClair Thomson) in 10 minutes, measured 3·9 cubic centimetres. If the first portion is taken as a measure of the rate of secretion the amount formed in the day will be 96 cubic centimetres. Taking, however, the second observation as being more accurate the amount formed in the 24 hours will be over half a litre (561·6 cubic centimetres). It is possible that this estimate is too high, as doubtless the patient, being under the observation of a physician, would be somewhat

[illegible] consequent alteration of the circulation

9th he was [illegible]

would, as we shall immediately see, cause the flow to become more abundant.

Comparison of the Morning and Evening Fluid.

Cavazzani,[4] from experiments on dogs, found that the cerebro-spinal fluid collected in the morning was more alkaline than that collected in the evening and that it contained more solid residue. He considered that this was related to the activity of the nervous system and that it confirmed Obersteiner's theory of sleep. He obtained corresponding results in the case of a man with traumatic fistula of the frontal bone. We considered it worth while to repeat this observation. The qualitative examination of the fluid collected the first thing on several mornings gave the same results as that of specimens collected the last thing in the evening. Both were distinctly alkaline but no estimation of the relative alkalinity was made. The following table gives in percentages the results of the quantitative analyses:—

	Morning fluid.	Evening fluid.
Water...	99·004	99·027
Solids...	0·996	0·973
Organic solids	0·118	0·100
Inorganic solids	0·878	0·873

The evening fluid is thus slightly poorer in both classes of solid constituents than that of the morning; the difference is chiefly due to an alteration in the organic solids. This is just what we should expect, as the decreased capillary pressure during sleep would lessen the rate of exudation of water. Without committing ourselves to any theory on nervous activity or sleep we may say that our experiments confirm those of Cavazzani.

The Influence of Straining and Posture on the Flow and Composition of the Fluid.

In a monograph on the cerebral circulation[5] one of us (Dr. Leonard Hill) put forward the view that the rate of secretion of the cerebro-spinal fluid, when the cranio-vertebral cavity is opened, depends directly on the difference between the pressure in the cerebral capillaries and that of the atmosphere. At the same time it was shown that cerebral capillary pressure varies directly and absolutely with vena cava pressure. Thus the cerebral capillary pressure can be raised with great ease by any agency which causes a rise of pressure in the vena cava or cerebral veins. On the other hand, cerebral capillary pressure varies directly, but only proportionately, with aortic pressure, for between the aorta and the capillaries there lies the peripheral resistance.

It follows from the above that the easiest methods of raising the cerebral capillary pressure in man are: (*a*) by compression of the abdomen; (*b*) by the assumption of the horizontal posture (in this position, however, the rise of venous pressure may be compensated by the fall of arterial pressure which normally occurs when the body is at rest; this is, no doubt, the case during sleep); and (*c*) by straining or forced expiratory effort with the glottis closed. By all these methods the vena cava pressure is considerably raised; and by the last method the venous inlets into the thorax may be completely blocked and the pressure in the cerebral capillaries raised to something like aortic pressure. It is true that by such a forced expiratory effort the aortic pressure is lowered. Nevertheless, the total effect on capillary pressure is a very great rise, for a fall of aortic pressure of 25 millimetres of mercury produces a fall in cerebral capillary pressure of less than five millimetres of mercury, while a rise of vena cava pressure of 25 millimetres of mercury produces a rise of cerebral capillary pressure of 25 millimetres of mercury.

The present case gave us a unique opportunity of testing the correctness of these views on the living human subject and our experiments entirely confirm them. As will be seen from the following figures, the flow of cerebro-spinal fluid is accelerated by all those circumstances which raise the cerebral capillary pressure. The increase in flow is, moreover, *accompanied by a decrease in* the percentage of solid matter. The experiments were conducted under the supervision of two of us (Dr. StClair Thomson and Dr. Leonard Hill); the chemical investigation of the fluid was performed, as before, by the third (Dr. W. D. Halliburton). 1. The patient was sitting quietly without straining. In five minutes 23 minims (1·357 cubic centimetres) were collected. 2. The patient was sitting and straining. In five minutes 35 minims (1·965 cubic centimetres) were collected. 3. The patient was sitting quietly. In five successive minutes the amounts collected were respectively eight, seven, five, five, and five drops. The total measured 19 minims (1·021 cubic centimetres). 4. Subsequently to this five minutes were occupied by the patient in straining and the amounts collected in consecutive minutes were 12, 10, eight, nine, and 10 drops respectively. The total measured 33 minims (1·947 cubic centimetres). 5. The patient was lying down and not straining. The drops fell as follows in five consecutive minutes—nine, six, five, five, and five, and the total measured 27 minims (1·593 cubic centimetres). Here the arterial pressure was probably not decreased owing to mental excitement, while the cerebral venous pressure was increased. 6. The patient was lying flat on the stomach and the head was hanging over the end of a sofa. The drops fell as follows in five consecutive minutes—eight, seven, six, seven, and seven. The total measured 28 minims (1·652 cubic centimetres). 7. Finally, after the last experiment, the following was collected during quiet dropping while the patient was sitting with the head forward. The drops fell as follows—five, four, four, four, and four in five successive minutes, and the total measured 15 minims (0·885 cubic centimetres).

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[2] ...gy, vol. x., p. 248.

[3] ...hemie, 1897, vol. xxiii., p. 532.

[4] Sul Liquido Cerebro-Spinale, La Riforma Medica, Anno viii., 1892, vol. ii., p. 591.

[5] The Physiology and Pathology of the Cerebral Circulation, by Leonard Hill. London: Churchill, 1896.

The following is the report on the chemical examination of the fluids. So far as the small quantities available admit of *analysis the fluids are the same qualitatively.* The liquid which escaped passively and that which passed under straining both contained a small quantity of organic and inorganic solids. Among the organic substances present are the reducing substance and a trace of proteid. Judged by the amount of precipitate produced by alcohol in equal amounts of the two fluids the proteid is less abundant in the fluid passed during straining, but the amount is too small to weigh.

Determination of the total solids gave the following results expressed in percentages: (*a*) the fluid passed passively, 1·1 per cent.; and (*b*) the fluid passed during straining, 0·43 per cent. Even the higher of these numbers is less than in cases of cerebro-spinal fluid from meningocele and hydrocephalus previously recorded by one of us (Dr. W. D. Halliburton.)[6]

In addition to the foregoing two specimens were collected at home by the patient herself. Analysis of these gave the following results:—*A.* Fluid collected while the patient was sitting upright quietly. The percentage of solids was 1·11. *B.* Fluid collected while the patient was lying down. The percentage of solids was 1·03. The effect of the horizontal posture is in the same direction, though not so marked as the effect of straining. This is what was to be expected, for the horizontal posture would not raise the venous, and thus the cerebral, capillary pressure so much as powerful expiratory efforts would. Moreover, the arterial pressure falls during quiet rest in the recumbent posture, as one of us (Dr. Leonard Hill) has determined.[7] In order to note the effects of straining on the retinal circulation Mr. Vernon Cargill was asked to examine the patient and he kindly reported as follows: "I noticed that when a straining effort was made a decided but transitory narrowing of the retinal arteries on and adjacent to the disc and also a marked pulsation in the trunks of the retinal veins occurred." The transitory narrowing of *the arteries points to the temporary lowering* of the aortic pressure, while the pulsation of the veins is a sign of the capillary engorgement due to venous congestion.

Experiments made with Abdominal Compression.

These experiments were made in order to complete and confirm those just recorded. The patient was seated and the abdomen was compressed as firmly and evenly as possible by one of us (Dr. StClair Thomson) spreading both hands over the front of the abdomen. The number of drops per minute were counted as before and periods of compression lasting five minutes were alternated with periods of the same duration, during which the patient was sitting quietly.

The following table gives the results succinctly:—

Condition of patient.	Drops in successive minutes	Total collected.	
		Minims	c.c.
A. Abdomen compressed ...	11, 9, 8, 7, 5	27	1·593
B. Sitting quietly	4, 5, 3, 4, 4	14	0·826
C. Abdomen compressed .	11, 8, 8, 6, 6	24	1·416
D. Sitting quietly	6, 7, 8, 6, 6	Measurement omitted.	

The fluids from experiments *A* and *C* were mixed together; also those from experiments *B* and *D.* Determination of the total solids gave the following results:—*A* and *C:* In fluid collected during abdominal compression the percentage of solids was 0·68. *B* and *D:* In fluid collected while the patient was *sitting upright quietly* the percentage of solids was 1·14. The experiments confirm those recorded in the preceding section. Abdominal compression raises the vena cava pressure and so leads to increased cerebral capillary pressure, and in this way to increase in the volume of the cerebro-spinal fluid secreted. Increase of volume, as before, is accompanied with fall in the percentage of solids present.

Intra-vascular Injection of the Cerebro-spinal Fluid.

One of us (Dr. W. D. Halliburton), in conjunction with *Dr. Mott, F.R.S.,* has been for some time engaged in examining the results of injecting into animals cerebro-spinal fluid removed from cases of brain atrophy, especially from cases of general paralysis of the insane. This fluid contains a toxic substance (choline), doubtless derived from the disintegration of lecithin in the brain. Injection of such fluid into the jugular vein of animals (dogs, cats, and rabbits) anæsthetised with ether causes a marked lowering of arterial blood-pressure which is partly cardiac in origin, but *principally due to the local action of the poison* on the neuro-muscular apparatus of the peripheral vessels, especially in the splanchnic area."[8] The fluid obtained from the present case was also injected in a similar way. Quantities varying from seven to 10 cubic centimetres were injected into the circulation in dogs but with entirely negative results. Such a quantity in the case of fluid from a general paralytic would be quite sufficient to cause a marked fall of arterial pressure. Similar negative results, both as regards blood-pressure and respiration, were obtained with other specimens of normal cerebro-spinal fluid removed from other animals or from cases of meningocele and hydrocephalus in children. In all such cases, also, choline was searched for chemically but with negative results.

ON ACUTE AFFECTIONS OF THE SKIN AND MUCOUS MEMBRANE OF THE MOUTH IN AN EARLY STAGE OF MYXŒDEMA;

PRIMULA OBCONICA AN ALLEGED EXCITING CAUSE IN ONE CASE.

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As far as I am aware cases such as the two following have not hitherto been observed in connexion with myxœdema, the reason no doubt being that the early stages of this malady have generally been overlooked. Fortunately, the importance of its early diagnosis has lately been brought into deserved prominence by Dr. G. R. Murray.[1] An additional matter of interest in the cases here recorded will be found in the evidence apparently afforded by one of them of the great susceptibility on the part of a myxœdematous subject to the irritant action of the leaves of the primula obconica.

CASE 1.—The first part of the following account is derived from notes which were carefully taken at the moment of observation and which were meant for earlier publication, an intention, however, which was postponed from the desire to wait for further developments which might throw fresh light on some puzzling features of the case. The patient, an unmarried woman, aged 39 years, first came to my consulting room on April 21st, 1893. The first glance at her swollen lips and her first efforts at speech seemed immediately to stamp the case as one of myxœdema and this opinion was strengthened by the fact that she was the sister of a cretin whose case I reported in 1884[2] and who died in an extremely swollen condition. A look into her mouth showed that the tongue and especially the soft palate and uvula were much swollen and the threatening aspect of the case induced me to send her straight home. Visiting her there an hour afterwards I ascertained that she had had a similar but much milder attack a week previously which had passed off in 24 hours. Both attacks commenced very suddenly and in neither was there any preceding rigor. The day before the present seizure she had been exposed to cold in a boat, but there had been no such exposure on the previous occasion. On the morning of this second attack menstruation had commenced although it was not due for a week longer (this being a novel occurrence with her), and four hours later she suddenly felt giddy and was obliged to lay hold of something for support, but this passed off in half-an-hour. Two hours later she suddenly felt her lips "blister," as she expressed it, when she touched them with her tongue and they swelled up to twice their usual size in five or 10 minutes, her throat became dry, and swallowing was difficult, and in half-an-hour there was a burning pain in both the tongue and the throat, most severe at the tip of the former. She was now in great distress and alarm, feeling as if she would soon "close up" altogether. I now found that the enlarged uvula had become very red and vascular in the brief interval which had elapsed since my previous examination. The lips were enormously swollen, the upper being traversed by a transverse furrow dividing it into two large ridges, while the lower, still more thickened, was much everted and covered with a copious tenacious mucus manifestly oozing from the inflamed surfaces. The swelling was almost completely submucous and not cutaneous, while the gums, the buccal mucous membrane, and the hard palate were practically unaffected. The anterior half of the tongue was of twice the usual thickness and very moist, this thickening being most marked on the lower surface, which presented the appearance of two considerable longitudinal ridges with a central furrow, an exaggeration of the normal condition. The papillæ were very prominent on the upper surface, giving rise to a strawberry appearance as in scarlet fever. The posterior half of the tongue seemed almost normal, a well-defined transverse line demarcating the two halves. On the soft palate or at its junction with the hard there were two distinct oval, red, vascular patches on each side of the middle line, elongated from before backwards and a little larger than horse-beans. There was a clear space between these and the enlarged and vascular uvula. The pillars of the fauces were slightly reddened but the tonsils, pharynx, and the parts beyond were quite unaffected. The patient said that the tongue felt as if a hot cinder were lying on it. She was hawking and spitting incessantly a large quantity of viscid saliva. There was no difficulty in breathing. Speech was impaired and the sense of taste was nearly lost, while she could bear nothing in the mouth but cold water and milk which relieved the burning sensation. The lower half of the face appeared to be swollen and there was some fulness below the chin, but the upper half of the face and the eyelids were unaffected. The right submaxillary gland was enlarged and somewhat tender but not the left; there was no swelling of the parotids. There was no tenderness over the thyroid and I was doubtful if the gland could be felt at all. The pulse was 60 and feeble, as also were the cardiac sounds. The temperature, which was taken with scrupulous care, was 99° F. in the mouth and 98·6° in the axilla. There was very considerable thirst. An aperient with the use of iced water and milk was ordered.

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[6] Journal of Physiology, vol. x., p. 232.

[7] Proceedings of the Physiological Society, Jan 15th, 1893.

[8] Proceedings of the Physiological Society, February, 1897, and February, 1898 (Journal of Physiology, vols xxi. and xxii.).

[1] On the Diagnosis of Early Thyroidal Fibrosis, Brit. Med. Jour., vol ii., 1893, p. 942.

[2] THE LANCET, August 23rd, 1884, p. 314, where an illustration is given

It was chiefly during subsequent visits that the previous history of the patient was elicited, but the sequel will be better understood if it be inserted here. She first of all stated that she had always been in good health until the present attacks, so that had I been satisfied with this and been content to regard the myxœdematous aspect as due only to the present acute swelling, as no doubt it was to a large extent, I would have failed to apprehend the real nature of the case. On inquiry it turned out that she had had a dry and scaly state of the skin of the face, forearms, and hands for five or six years, for which she had used glycerine every night, while an eruption of reddish watery spots frequently broke out about her wrists. At the same time she had not felt so strong as formerly; her appetite had failed; she had become very susceptible to cold, often feeling shivery; she was easily fatigued and had become slow in walking, but without unsteadiness of gait. Speech was unimpaired, but she had a bad taste in the mouth and was troubled with a copious tenacious saliva which even trickled from her mouth and moistened the pillow at night. Her complexion had become yellowish of late. There were two well-marked pink areas on the cheeks, and when I called her attention to these she said that they had always existed but that they grew excessively bright of late if she was near a fire. She had grown stouter within the last few years with a tendency to a "hanging" chin, but the lips and eyelids had never been swollen although her sister had often remarked a blueness of the lower lids. In September, 1892, she first experienced a "blistering" of the lips as felt with the tongue with a peculiar sensation of smoothness about the latter. This would last a few hours and return in a few days or weeks. Her hair and nails were normal with only slight brittleness of the latter. The memory was slightly impaired. The inquiry was further directed to the various other symptoms and appearances of myxœdema as enumerated in the exhaustive report of the Clinical Society of London and with negative results.

To return to the present acute affection: the same evening the throat and tongue were worse and the patient was protruding the latter frequently to cool it. A dose of thyroid extract corresponding to one-twelfth of a lobe of the sheep's gland was administered. (This was prepared by myself the same day. The acute symptoms were, as far as my knowledge went, unprecedented in myxœdema, but I had no suspicion of any external irritant cause and treated the general cachexia. Apparently marked improvement always followed the use of the remedy.) On April 22nd she had improved; the swelling had diminished and the burning was relieved; the patient had slept for an hour in the morning. There was now some prominence of the mucous membrane of the nose on each side of the septum. The lips were thinner and had little moisture on them and had now a somewhat withered, leathery appearance. The tongue was normal in size, but presenting an oval patch of exfoliation near the point, longest transversely. The soft palate and uvula were now uniformly red. The temperature in the axilla was 98·6°. A dose of extract equal to one-sixth of a lobe was given. On the 23rd the patient was much improved; she had slept well the previous night. The soft palate was as red as ever; the exfoliated patch on the tongue had disappeared. The temperature in the axilla was 98·6°. No extract was given. On the 24th the uvula was still a little swollen; two red oval patches were now seen on the hard palate on each lateral half; the lower eyelids were now somewhat puffy. The temperature in the axilla was 98·5°. No extract was given. On the 25th there was sudden recurrence of irritative symptoms in new situations. The patient stated that the burning in the throat and tongue had returned with considerable severity the previous afternoon for several hours, but did not lead to salivation. On the morning of the 25th at 1 A.M. she was roused suddenly out of sleep by a burning sensation in the face and hands which felt as if they were being "roasted"; this passed off rather suddenly about 3 A.M. At the first glance on my arrival the face was seen to be much broader, with a fulness under the eyes. The pink areas on the cheeks, especially the right, were the seat of a vesicular eruption which was even more marked below the patches where some of the vesicles, seated on a reddened base, were oozing out serum and there was a similar angry rash on the chin. The burning had now given place to an itchy sensation and there was a numb feeling about the hands and in the thumbs more especially. The fingers were swollen and on the back, next the nails (and this was more marked on the thumbs), the skin was quite red for half an inch or so. Irritation had quite gone from the mouth, where all the parts were nearly normal; speech had improved and taste in the mouth was returning. The temperature in the axilla was 98·5°. Ten minims of Brady and Martin's extract of thyroid were now given.—On the 26th there was an astonishing change; every trace of eczema or irritation had gone; the face only was a little swollen; the most pronounced remaining sign of myxœdema was the tawny yellow colour. The patient now felt so well and lively that she "could do anything." The temperature in the axilla was 99°. No extract was given. On the 27th the patient was very well; the temperature in the axilla was 98·4°. Five minims of extract were given. On the 28th the temperature in the axilla was 98·8°; the patient was very well, but some redness of the gums was present, especially of the lower. No extract was given. On the 29th the temperature in the axilla was 98·4°; she said that she had not felt so well for some years; she had got thinner, her thumbs being thrown into wrinkles The lips, tongue, and uvula were normal Menstruation ran its usual course in the case and it recalled to my recollection that of a woman who had attended the dispensary of the Glasgow Western Infirmary for some uterine affection and who at one of her visits stated that at her previous menstrual period (as also during the present one which was in actual progress) she had had a sore tongue and throat, and the following note was taken at the time "Point of tongue red and almost denuded of epithelium, on throat an eruption like scarlet fever" There was nothing about this patient to raise the slightest suspicion of myxœdema, but at that time I did not dream of looking for any connexion with the latter

The urine in the above case was examined on April 28th after menstruation had ceased and it showed the following characters, it was pale, feebly acid, and of specific gravity 1017, there were no albumin no sugar, and very little mucin Much of the saliva if the excretion from the mouth can be so called, had, contrary to orders, been thrown away, but a few ounces were obtained which presented the following characteristics it was very turbid, depositing shreddy coagula, but without ever becoming clear above, its specific gravity was from 1010 to 1011, neutral, or faintly alkaline (!), it was very viscid, becoming *ropy* with alkali, there was little frothing power The filtrate contained 1 224 per cent of albumin, some globulin while mucin could be detected up to dilution with 50 volumes of water Dr R M. Buchanan, pathologist to the Glasgow Western Infirmary, examined it for uric acid by Sir A Garrod's thread test, but found none He found that the deposit contained, besides blood colouring matter and débris, numerous nucleated epithelial cells, many of them oval and often coalesced into a mass It is unnecessary to point out the analogy, or rather *identity, of the acute swelling in this case with what has* been described as angio-neurotic œdema occurring especially in neurotic females of a gouty diathesis and in other conditions

Subsequent history —The patient continued very well for some time, but the myxœdematous physiognomy again developed, with now subnormal temperature, as tested on several occasions, so that she was put on *thyroid treatment* This improved her condition in many respects, but ever and anon, and apparently in spite of the treatment, she suffered from severe dermatitis of the face and hands, although the mouth was never afterwards affected as before At one time her face was so bad that I sent her to a skin dispensary, where an eminent specialist pronounced the case to be erysipelas and applied something which made her worse instead of better At length she mentioned her case to a gardener from whom she had just procured some specimens of primula obconica who at once told her that the plant was the cause of her trouble and that he knew of similar cases, one especially of a titled lady who had suffered severely from the effects It turned out that my patient had all along been cultivating and frequently handling this plant and she stated that she had occasionally chewed the flowers and swallowed the juice but could not say whether she had done so shortly before either of the acute attacks here recorded The noxious plant being now discarded there was no further return of the mischief except on one occasion when from curiosity she held a leaf in contact with her lips for a short time, soon after which they, together with the point of the tongue, swelled up for some hours The important facts remain to be added that she had handled the plant for one or two years before the first blistering of the lips was experienced whilst the rest of the family had been unaffected by it although a sister was as much given to chewing the flowers as the patient herself,

Numerous cases in which this irritant has produced similar, but rarely if ever so severe, effects as those observed in this case have been recorded of late in both medical and lay journals and from these several sources the following facts stand out prominently (1) that the effects are described as erysipelas, urticaria, but more especially as eczema of the face and hands, sometimes attended with much swelling, (2) that some constitutions are specially susceptible while others enjoy immunity, and (3) that apparently the majority of sufferers have been females, although on the latter point the evidence is not decisive From all the facts it seems reasonable to conclude that the above case was the product of two factors—an external irritant and an internal predisposing cause The latter seems to me to be the more important and we naturally look for it in the existence of morbid products in the parts affected The conflagration which broke out there appears, speaking generally, to have consisted in an oxidation and elimination of those waste materials and hence was essentially curative. Mere contact with the irritant cause does not seem satisfactorily to account either for the parts attacked or the effects produced, and we may ask, were the latter due to a direct action on the tissues concerned or to the stimulation of a partially incompetent thyroid gland? At all events, we find in this case the general physiognomy of myxœdema developed in a few hours, or rather minutes, and the uvula presenting (when first seen and before it became vascular) the same appearance and causing the same snuffling speech as in chronic myxœdema The case seems to suggest that some preparation of the primula or other similar plant might be of value for diagnostic or even therapeutic purposes Indeed, it has been already used with the latter object in view, for Dr Riehl of the University of Vienna is said to have found that the irritant principle resides in the tiny hairs of the leaf and stalk and to have prepared from them an extract with which he claims to have cured some obstinate cases of skin disease[3] The hairs had been previously ascertained to be glandular by Dr Wilson of St Andrews[4]

In January of the present year this patient had a febrile attack which lasted a week, during which the temperature rose as high as 99 6° On recovering she felt in better health than before and it seemed probable that she had not been taking a sufficient quantity of thyroid extract And now a fact came out which had not been brought to light by all the previous inquiry At the age of 28 years (corresponding to the time when the dry state of the skin commenced) she experienced a pain in the right side of the neck shortly after an occasion of great grief and this was accompanied by a choking sensation which seemed closely connected with it This lasted about a year and long afterwards she was conscious of discomfort in the same situation on swallowing anything cold On being asked to point out the spot she placed the point of her finger directly over the right lobe of the thyroid and careful manipulation now seemed to indicate that here the gland was more or less *atrophied, while there was a comparative fulness on the left* side, although I must confess that I cannot speak very positively on this matter

CASE 2 —A very brief notice of this must suffice An unmarried woman aged 36 years, had consulted me at intervals for two years or more complaining of symptoms of failing health, which I treated by tonics &c without benefit It was not until one day in April 1898 that she presented herself before me with a physiognomy so unmistakeably indicative of myxœdema that I recognised the fundamental cause of her ailments Besides some swelling there were now present subnormal temperature impaired memory, difficulty in deglutition, the saliva sometimes even trickling from the mouth and scanty brown and watery menstrual fluid The thyroid treatment was promptly followed by the usual success, even the menstrual function being restored to its original state of vigour, this and its previous failure being points of exceptional interest It was now obvious that this case might have been diagnosed at an earlier date, but at the same time *the present cases show that the effects of* thyroidal inadequacy or irregularity may be more multifarious than has hitherto been supposed It was in December, 1898, that an acute attack from which the patient suffered resembling urticaria œdematosa led me to reflect on her still earlier history In this seizure, which came on two hours after a hot bath her face suddenly flushed up and the eyelids swelled, and this flush shifted rapidly to other parts, as the arms the thighs and legs, and the trunk where it appeared in patches which, however, were never pale in the centre It was accompanied with a distressing scorching and tingling sensation It not only shifted to and fro, but sometimes disappeared from the skin altogether, and at these times the patient felt a burning sensation in the epigastrium and abdomen generally, which again was instantly relieved on the reappearance of the eruption There was also said to be some sore throat I did not see the patient till the fourth day when the worst symptoms had subsided, but the appearances I may note were as follows there was no rise of temperature, the *skin of the face was dry and shrivelled*, with elastic œdema of the eyelids which were waxy looking the eruption on the chest was indistinguishable from scarlet fever. Slight if any desquamation followed. Some days afterwards I found the temperature subnormal, and learning from the patient that she had been previously chilly I told her that she was probably not following out the thyroid treatment with sufficient regularity. Now the patient had been under my own care with severe facial erysipelas four years previously and twice within the same year and once again two years later had had attacks similar to that already mentioned but milder in character. She dated the commencement of her progressive illness from a period about three or four months antecedent to the attack of erysipelas. After exposure to cold she began to suffer from cough, pain in swallowing, and a feeling of suffocation, starting from the midriff and extending over the front of the chest, which rendered inspiration oppressive and difficult. She afterwards complained that I paid little attention to these symptoms; and, indeed, finding them persist without any adequate cause being revealed by auscultation I had come to regard them as hysterical, for I knew that she had a certain alloy of this temperament. On inquiry at a later period it was found that the pain in deglutition was seated over the thyroid in front and that the same spot had been painful on pressure. It should be observed that the patient always spoke of this part as the "throat" which is often used to denote the whole front of the neck. The difficult deglutition, which ensued later was referable to two localities, one being the fauces, where it was due to sluggish muscular action, and the second the site of the thyroid. A later symptom worthy of note was a stinging pain in the left iliac region which radiated backwards towards the sacrum and down the inner aspect of the thigh as far as the foot and was apparently of ovarian origin. This came on several months before myxœdema was diagnosed and had become so severe that it was the principal cause of bringing her to me at that time. She also suffered from tremors, vertiginous attacks at night, and felt as if she "were going out of her mind" and becoming incompetent for the duties of life. It is obvious that all these symptoms might be referred to hysteria; if so, the important conclusion seems to follow that hysteria itself in this case was dependent on thyroidal irritation, for all the patient's troubles vanished under thyroid treatment and are apparently only kept at bay by it, for they threaten at once to return whenever it is left off for a short time.

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[3] The English Mechanic and Gardeners' Chronicle, April and May, 1895.

[4] The

I now incline to the view that thyroidal inadequacy was the predisposing and all-important cause both of the erysipelas and urticarial attacks, for which latter no error in diet or drug or other source of irritation could be discovered. The influence of heredity and constitutional states in these affections is worthy of notice in this connexion and it soon appeared that the former had its share in this case also so far as the myxœdema was *observed*. No sooner had the patient experienced the benefit of the thyroid treatment than she expressed her conviction that a married sister living in Ardrossan must be the subject of the same disease. On visiting the latter I found it was even so; she was already, at the age of 50 years, in an advanced stage, with great impairment of the mental faculties, besides being nearly deaf and blind. I left her for thyroid treatment under the care of Dr. J. McDonald who lately reported that the swelling had disappeared except over the abdomen and that there was improvement in hearing, physical capacity, and mental powers. I cannot detect any trace of the thyroid in Case 2 and she cannot do without a thyroid tabloid for more than a few days, while Case 1 can sometimes dispense with the remedy for a month. Both are positive in asserting that there never was any swelling in the region of the gland. Nevertheless, do not these cases lend some countenance to the supposition that besides sudden and violent perturbations of thyroidal function there may be such an affection as an acute thyroiditis which may sometimes be the starting-point of atrophy and fibrosis?

Glasgow.

Montgomeryshire Infirmary.—The annual general meeting of governors was held at Newtown on Feb. 23rd, Mr. R. E. Jones presiding. The board of management reported that the adverse balance had increased during the year from £96 to £214 in consequence of the additional accommodation provided for special cases. The medical staff was re-elected and on the motion of Mr. Harold Palmer, seconded by Mr. J. C. Gittins, Dr. Edward Cureton (Shrewsbury) was appointed an honorary consulting physician of the institution.

INJURY TO THE VAGINA, THE RECTUM, AND THE PELVIS;

SUBSEQUENT NECROSIS OF THE PUBES AND PREVESICAL ABSCESS; OPERATION; RECOVERY.

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The following case merits attention from the unusual sequel of a crushing injury to the pelvis and soft parts.

A girl, aged 10 years, was admitted into St. Thomas's Hospital under my care on August 10th, 1895. When crossing the road on that day she was knocked down by an omnibus, the front wheel passing over her lower abdomen. On admission she complained of intense pain above the pelvis and there was considerable bleeding from the vagina. On examination under ether it was discovered on separating the labia that the mucous membrane of the vagina had retracted upwards, being completely torn away round its orifice but behind the hymen below: the wound here was complicated by a rent in the recto-vaginal septum. Owing to the retraction of the vagina there was distortion of the urethra but apparently there was no wound in it. There was no evidence of any fracture of the pelvis in the way of abnormal mobility and there was no blood in the urine when drawn off with a catheter.

The retracted vagina was brought down and its margins were stitched with silk, as far as possible in their original site; thus the orifice of the urethra was replaced in its natural position. At the lower part where the rectum was rent this was sewn up but the wound was only small.

The notes of the case for August 12th state that since the accident the patient had had retention of urine, and that the urine had to be drawn off by catheter, some difficulty presenting, however, owing to the swelling of the parts. The wound on that date looked very sloughy, but there was no tension. The temperature varied between 100° and 101·8° F. The patient was put into a boric lotion bath. On the 14th the temperature still ranged from 100° to 101·8°. The urine was now passed naturally into the bath without pain. The wound was cleaner. On the 15th there was a reduction of the temperature to below 100°: there were fæces in the vaginal wound. On the 19th the patient was making satisfactory progress. There was still a small quantity of fæces in the vagina. The temperature was about the normal line. The wound was much cleaner and was granulating. A number of bruises over the left hip were apparent. On the 31st the bath was discontinued as the wound was now cleaner and was granulating nicely. No fæces passed into the vagina and there was only a little discharge from the vagina. There was no pain. The general condition of the patient was very good. She left the hospital on Sept. 11th with the wound entirely healed; both urination and defecation were performed without any hindrance.

On April 20th, 1898, the patient was again brought up to the hospital complaining of having experienced severe pain for the past three days in the lower abdomen which was swollen, and there was some difficulty in micturition. The temperature was 102·8° and the child looked decidedly ill. On examination on the 21st there was a hard, rounded swelling on the left side of the mid-line below the umbilicus and per rectum this was felt to be nodulated and elastic, evidently containing fluid and reaching down to the level of the bottom of Douglas's pouch. The genitals gave evidence of the old injury. The lower part of the vestibule was a contracted fibrous ring into which the little finger would not go; the urethral orifice was within this and after some difficulty a *small* catheter was passed into the bladder, drawing off urine but without influencing the size of the swelling although it did not seem quite so prominent. As the instrument went in it was felt to pass over, as it were, tough fibrous ridges transversely placed on the upper wall about the neck of the bladder. In the vagina a sequestrum about three-quarters of an inch long was discovered and it was removed; it was a portion of the descending ramus of the pubes.

As the swelling seemed probably an abscess in front and to the left side of the bladder, a sequel of her previous accident, an operation was at once proceeded with, the patient's temperature at the time being 100·6°. An incision was made on the left side starting just above the pubes and at the outer margin of the rectus and passing along the line of the inner half of the inguinal canal. On dividing the external oblique the round ligament was exposed and it was seen to be imbedded in inflammatory infiltration. On cutting carefully through this matted tissue just above the ligament into the floor of the canal a cavity was opened of about the size of an orange from which very fœtid pus escaped with three small sequestra. The cavity had rather thick, well-defined walls and its floor was over and included the upper part of the left pubic arch and lay above and to the left side of the urethra as proved by the passage of the catheter. In the bone were some small pits from which the sequestra had come. The space was washed out with boric lotion and a drainage-tube was put in. It was dressed with cyanide gauze. The purulent collection was situated in the prevesical space (cavum Retzii) above the superior layer of the triangular ligament and to the left side of the urethra and had formed in relation with the necrosis of the arch secondary to the injury. The sequestrum found in the vagina had exfoliated from the pubes below the inferior layer of the ligament and thus the attachment of both layers of the ligament separated the sites of the necrosing fragments and accounted for the non-communication of the vagina with the abscess cavity.

The after progress of the case was uneventful. The temperature immediately dropped to normal and there was no further interference with micturition. The drainage-tube was removed on April 29th and the child went out with the wound healed on May 4th.

The first point to comment upon is that at the time of the injury, although it was strongly suspected, there was no evidence of any fracture of the pubic arch. In the light of what happened it is highly probable that there was a fissure with some splitting of bone which slowly exfoliated. This necrosis was attended by the formation of the very localised tumour in the front of the bladder. It was curious how the superior layer of the triangular ligament separated the two necrosed fragments and completely shut in the pus collection below.

Upper Wimpole-street, W.

VANISHING TUMOURS.[1]

BY D'ARCY POWER, F.R.C.S. ENG.,

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I WISH to deal in this paper with a phenomenon which has not yet, I think, received adequate attention though it must have been repeatedly observed by nearly every surgeon. The phenomenon to which I refer is the disappearance of a tumour which sometimes takes place after such slight surgical operations as incision, puncture, or even simple exposure. For the sake of convenience I venture to speak of these swellings as "vanishing tumours," for this character of spontaneous disappearance is really very startling and though it is satisfactory to the patient it is somewhat disconcerting to the medical practitioner for it nearly always falsifies his prognosis.

I would say at the outset that a "vanishing tumour" is not to be confused in any way with a phantom tumour, for it is in every respect a true swelling, visible to the eye, apparent to the touch, and capable of exposure by the ordinary surgical methods; occurring at any age and in either sex; most often innocent but sometimes, as I hope to show, undoubtedly malignant. My attention was first called to this form of tumour by the following case.

CASE 1.—A boy, aged eight years, was brought to me a few years ago suffering from a large cystic lymphangioma which occupied the whole of the left side of the neck, reaching upwards behind the pinna of the ear, the lobule of which it had invaded, and extending across the middle line in front of the neck. The swelling had been noticed directly after birth and it had been tapped before I saw it about 150 times with a trocar and cannula. It had not undergone much change in size and though it did not increase proportionately to the growth of the boy it got no smaller. The tumour consisted of an elastic and slightly lobulated tissue to which the skin was closely adherent. It clearly contained many cysts varying greatly in size and tenderness. With a full appreciation of the difficulties to be encountered I advised that the tumour should be removed and in due course I extirpated as much of it as lay in the posterior triangle of the neck. The wound healed by first intention and without any trouble except for a sharp attack of lymphangitis about a fortnight after the operation, due to a long railway journey home in frosty weather.

I saw the boy two months after the operation and found that the posterior triangle was free from growth but that the tumour still extended obliquely from the lobe of the ear which it involved, tilting it upwards across the neck to the second or third ring of the trachea on the right side. The swelling was greater at the lower than at the upper part of the neck. Five months after the operation the boy had a second attack of lymphangitis in the tumour and in the following month he had a third attack. After each attack the swelling seemed smaller. He was brought to me again nine months after the operation with the information that the tumour had vanished. I examined the neck carefully and found that the left anterior triangle was so soft that the beating of the carotid artery could be clearly felt and there was no trace whatever of the former swelling. I have seen the boy several times since, but there is no return of the tumour and the two sides of the neck are now quite symmetrical.

Microscopical examination of the piece of tumour removed showed that it consisted of a number of cysts formed of dilated lymphatics. The cysts had no very definite walls and irregular tags of connective tissue projected into them in many places. I should not have been at all surprised therefore if the tumour had consolidated into a mass of fibrous tissue or if the many small cysts had fused into a single large one. But I was distinctly taken aback, though the sensation was a pleasurable one, to find that the swelling, which was of very considerable size and extremely unsightly, had vanished so completely as to leave healthy and supple skin without any underlying induration.

CASE 2.—This case is an equally remarkable one and does not seem to be easily capable of an explanation. A girl, aged one year and ten months, was admitted into the Victoria Hospital for Children at Chelsea under the care of my colleague, Dr. J. W. Carr, on Nov. 1st, 1898. She had been ailing for six months, suffering at first from whooping-cough and afterwards from bronchitis and diarrhœa. During the week before her admission to the hospital she had been getting worse, being feverish, sick, and passing dark-coloured and slimy motions which contained blood, whilst for the last day or two her mother had noticed that she had been getting yellow. The other children were healthy and there was no history of syphilis to be obtained, but a brother and a sister of her mother—i.e., an uncle and an aunt of the patient—are patients in the Brompton Hospital for Consumption. The ward-note states that on admission the child was fairly well nourished, with a pale-yellow complexion and yellow conjunctivæ, the skin of the body generally being rather pale. The liver was enlarged and a little tender and its edge could be felt about an inch below the costal margin. All the other organs appeared to be healthy. The temperature was 102·2° F. Four days later the jaundice was deeper, the abdomen was distended, and the liver was rather larger, for it now reached about one and a half inches below the costal border of the ribs, the upper limit of the liver dulness being on a level with the sixth rib. After an interval of another four days a note was again made that the liver was considerably larger, for its lower border could be felt just above the level of the umbilicus, the upper limit being, as before, in the sixth space. The stools were almost white, but they were less offensive than they had been. Three days later, on Nov. 11th, the liver was said to be still larger, and it was undoubtedly tender when pressure was made over it. The upper limit was the sixth rib, the lower border was on a level with the umbilicus or a little below it. The stools were formed and were of the colour of white clay. The temperature was becoming hectic, oscillating between 102° and normal. On Nov. 15th, and again on Nov. 18th, the notes repeat the statement that the liver maintained its large size and that the jaundice was still present. The child was handed over for surgical treatment on Nov. 22nd in the hope that an exploration of the liver might afford her some relief and on the same day I opened the abdomen in the upper part of the right semilunar line. The liver was much congested but its surface was perfectly smooth and free from any adhesions. I passed a trocar and cannula deeply into its substance in three different directions as I thought it possible that there might be an hepatic abscess, but blood alone issued from the punctures. The lower border of the liver was then examined and a cystic swelling was felt which at first I took to be the gall-bladder, for the liver tissue was firmly adherent to it and was so thin that a part of the cyst projected through it at some distance away from the edge. A closer examination showed that the apparent cyst was in reality part of the small intestine which was so densely adherent to the liver that it was not thought advisable to separate them. The abdomen was closed and the child was said to have suffered very little from shock, the pulse being almost, if not quite, as good at the end as it was at the beginning of the operation. The temperature fell to 96·2° in the night and though it rose on the following day it was never more than 100° during the rest of the patient's stay in the hospital. The abdominal wound was quite healed on Dec. 2nd and it was noted on that day that the liver was not quite so large, though it was still very tender. On Dec. 9th the liver reached about one and a half inches below the costal margin, extending well over to the left of the middle line, but the tenderness had disappeared. On the 13th the liver was still smaller and on the 30th its lower border could no longer be felt beneath the ribs. The patient was allowed to get up and was walking a little by herself on Jan. 17th, 1899, and on the 24th as the liver appeared to be of its natural size and the abdomen was quite soft she was discharged from the hospital.

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[1] A paper read before Harveian Society of London on March 2nd, 1899.

If it had not been for the remarkable and continued defervescence which followed the abdominal section in this case I believe that I should have regarded the shrinking of the liver as a simple coincidence, and that by accident I had done the operation at a time when the hepatitis had reached its maximum, but the range of the hectic fever had been so uniform and its cessation was so complete that I feel sure that the improvement was due directly to the operation.

I have had an opportunity lately of studying another vanishing tumour which was in St. Bartholomew's Hospital under the care of my chief, Mr. W. J. Walsham.

CASE 3.—A man, aged 21 years, was admitted into Harley ward with a tumour situated between the umbilicus and the pubes and apparently fixed to the pubes. It was three or four inches broad and of about the size of a large cocoanut. The swelling could be felt per rectum as a rounded mass moveable by the finger. The patient had been losing flesh lately, but his temperature was normal, his bowels acted naturally, there was no blood in his motions, and no pain on defecation; nor was there anything abnormal discovered in his urine or in the act of micturition. An incision was carried into the abdomen through the linea alba, when the tumour was found to be so fixed to the pelvis as to render its removal impossible. It was covered with large tortuous veins and was of a dark-red colour with the consistence of a soft solid. The wound was closed and united by first intention, the patient making an uneventful recovery. He was discharged with the swelling apparently in the same condition as upon his admission to the hospital or perhaps a little larger. Three months later he came back to the hospital and it was then found that the tumour had entirely vanished and that the patient had gained a stone and a half in weight.

Mr. Walsham in commenting upon this case[2] says very appositely that "it is of great interest as bearing upon the question of the occasional spontaneous disappearance of sarcomatous growths. It is, of course, possible that we were mistaken in our diagnosis and that the tumour was not sarcomatous. Its rapid growth, firm connexion with the pelvic bones, progressive loss of weight and strength of the patient, taken with the appearance and consistency of the swelling itself as revealed at the exploratory operation, led me to entertain no doubt as to its nature, and those of my colleagues who saw it with me were of the same opinion. This is the second case which I have personally met with of a supposed sarcoma in the abdomen disappearing spontaneously and several of my colleagues, I know, have had a similar experience. It may be added that there was no discharge of pus from the rectum, bladder, &c., nor any other sign of its having been an abscess or of an inflammatory nature; but of course one cannot lose sight of the possibility that it might have been an inflammatory or some other affection of the glands."

Mr. Walsham alludes to other cases of a similar character having been seen at St. Bartholomew's Hospital and I find the following in the Statistical Tables for the year 1897[3] as having occurred under the care of Mr. Alfred Willett who has kindly given me leave to publish details of the case on condition that I say that the patient was also seen by Mr. Bowlby.

CASE 4.—A man, aged 54 years, was admitted on account of an abdominal tumour and vomiting, both of two months' duration. He had also been losing flesh and was constipated. A hard nodular mass as big as a man's fist could be felt in his abdomen, lying just below the liver and slightly to the right of the middle line. It was well defined and was not particularly tender. An exploratory incision showed that the growth was adherent to the external abdominal wall in front, to the stomach and duodenum behind, and to the under surface of the liver above. The gall-bladder seemed to be quite surrounded by the new growth, which thus proved irremoveable and was thought to be malignant. The patient recovered rapidly from the operation and he left the hospital three weeks afterwards. He reported himself three months later to say that since the operation the swelling had "much dispersed." Four months afterwards he again came to the hospital and was examined at "consultations" by many of the surgeons, who agreed unanimously that no tumour could any longer be felt in his abdomen, and at this time the man seemed to be in good health. But a few months later he was seen by Mr. Berry, the surgical registrar, in another hospital, suffering from jaundice and emaciation and there was but little doubt that he had malignant disease probably in or near the head of his pancreas, a diagnosis which was confirmed after the death of the patient. Mr. Berry, to whom I wrote for further details of this patient, has kindly given me the following account of another case of a like nature.

CASE 5.—"A man was admitted into the Royal Free Hospital under Dr. Sainsbury and was seen by Mr. Boyce Barrow and myself. He had a rounded and hard lump as big as a fist in the region of his pylorus. We all thought it was malignant, although, from its smoothness and some other features I never felt sure that it was not inflammatory. I opened the abdomen and found some adhesions which I broke down. The man made an excellent recovery and lost all his symptoms of pyloric obstruction. Nothing more was seen or heard of the lump after the operation."

CASE 6.—The vanishing tumours to which I have referred hitherto have been innocent growths but this wax model and these drawings from the museum of St. Bartholomew's Hospital[4] belong to another category. They represent the top of the head and show a large flattened, irregularly-lobed tumour of the scalp lying over the interparietal suture. An area devoid of hair and measuring two inches in width by six inches in length, extending over the left parietal and frontal regions, marks the position of a former tumour which was removed by operation. Two flattened swellings are now seen near the scar and a third lies over the left frontal region. The patient was a man aged 24 years who at the time of his admission to the hospital in March, 1890, gave the following history. About six years previously he received a blow on the top of his head from the flywheel of an engine. He took no notice of the injury at the time but a tumour began to grow a few months later at the place where he had been hurt. It reached the size of a sparrow's egg and then disappeared in about six months. Six or eight tumours subsequently appeared on different parts of the head and then diminished in size. Another tumour appeared in September, 1889, and grew steadily but quite painlessly until it was removed in March, 1890, when it measured 10 inches in circumference. The scar caused by the removal of this tumour is seen in the model to lie over the left parietal bone. Microscopical examination showed the tumour to be a fibro-sarcoma, for it consisted for the most part of a round-celled sarcoma interspersed here and there with irregular connective tissue cells and in places with bands of fibrous tissue. The patient was under the care of Mr. Morrant Baker who applied the appropriate term

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[2] St. Bartholomew's Hospital Reports, vol. xxxiv., 1898, p. 275.

[3] St. Bartholomew's Hospital Reports, vol. xxxiv., 1898, p. 239.

[4] Series 56, No. 212B, and Series 57, No. 1232 and No. 1232A.

"withering sarcoma" to this rare specimen which is the more interesting because it was a well-known axiom with Cohnheim that "in the life-history of tumours there is only one fact of universal application—that a new growth never spontaneously recedes and disappears." Here, however, is a new growth which actually did recede and part of it disappeared, so that his generalisation is incorrect. And if it is incorrect for sarcomata there is no reason why it should not prove to be equally inaccurate for carcinomata. Indeed, there is very little doubt that carcinomatous ulcers of considerable size have been known to heal sometimes only superficially, the cancerous process continuing beneath the scar, but in some few cases the repair has been complete and permanent. Instances of atrophying scirrhus, too, are not uncommon in old and spare people, nor is the process difficult to explain in those whose tissues are undergoing nothing but retrogressive changes, since the cells have almost lost their power of reproduction.

There remains yet another class of vanishing tumours, but I am not concerned to speak of it at any length this evening, though it forms in some respects a pendent group to those which I have just mentioned. I mean cancers which disappear, or at any rate cease to show signs of active growth, after the removal of an ovary—hypertrophied prostates which become smaller when a testicle has been cut out or when the *vas deferens* has been divided and adenomata of the breast which vanish as a result of pregnancy and lactation. In these cases we shall have to look much further for the cause of the disappearance, because such tumours vanish as a result of a series of complex physiological changes about which we know nothing at present.

Mr. Stanley Boyd has recently called renewed attention to this class of tumour in his interesting and suggestive "Remarks on Oöphorectomy in the Treatment of Cancer of the Breast,"[5] and a similar case, brief notes of which follow, was under my care, conjointly with Dr. W. S. A. Griffith, last summer.

CASE 7.—The patient was in a state of advanced cancerous cachexia with a mass of scirrhus in one breast and symptoms of serious ovarian disease. On opening the abdomen both ovaries were found to be enlarged and cystic and the small intestine as it appeared in the wound was plainly the seat of metastatic deposits of cancer. One ovary and the breast were removed but no attempt was made to complete the operation by opening the axilla as the patient seemed to be too ill to bear any prolonged surgical manipulation. But she made a speedy recovery and she increased rapidly in weight.

I fully believe with Mr. Stanley Boyd that the removal of the ovary in this case was the direct cause of the retrogressive changes in the cancer. There must, however, be some physiological connexion between the two organs before such an effect can be produced, for I am not inclined to remove the testes for the cure of a cancer of the lip as a facetious and sceptical friend lately pointed out would be the proper and logical outcome of the hypothesis.

Many similar cases might easily be collected, but these are enough for the purpose which I have in view—viz., to draw attention to a class of tumours which either vanish spontaneously or after such comparatively slight surgical treatment as partial removal or exploratory incision. Many interesting points for discussion arise in connection with these tumours. Occasionally they are true sarcomata or carcinomata but they are much more frequently inflammatory swellings of the connective tissue and they occur, therefore, where the connective tissue is abundant in quantity and loose in texture. They are formed slowly and painlessly and they disappear in like manner. Yet being of considerable size and consisting of cells which are multiplying actively they may cause pressure symptoms and constitutional disturbances which make it hard to distinguish an innocent from a malignant tumour.

Now, the first point which I wish to raise is, What would have become of these tumours if they had been left alone? And it is to seek an answer to this question that has led me to bring this paper before the Harveian Society of London this evening for I think that many of the members may have seen such swellings and may perhaps have been somewhat more inclined to allow them to run their course unmodified by surgical interference. In the case of the lymphatic tumour (Case 1) I think that in all probability it might have remained another eight or 10 years, eventually shrivelling to become a wen or a soft fibroma. It might even have disappeared altogether and those who attended the last clinical meeting of this society will remember a very interesting case shown by your secretary, Mr. Raymond Johnson,[6] of a child with a cystic lymphangioma in the neck very similar to the one which I have described. No operative measures had been adopted, except puncture of the largest cyst, but the tumour was shrinking spontaneously in more than one direction. It was therefore getting steadily smaller and where it had shrunk the skin seemed to be perfectly healthy, whilst the underlying tissues were free from any induration. But the process of disappearance is a very slow one and the tumour in these cases is so unsightly as to make it quite worth the while of a child occupying a good social position to run the risk of extirpation, for no boy with such an hygroma could lead a happy life at a public school. Besides, one has no right at present to assume that they will disappear completely, for though the cysts may vanish I have seen thickened, warty, and ugly scars remain. But vanishing cysts are not confined to children; they occur sometimes in the breasts of women, and Mr. Bryant gives details of two cases which occurred in his own practice.[7]

The enlarged liver in Case 2 would, I think, have suppurated most undoubtedly. The inflammation was probably tuberculous and the *rationale* of cure was the same as in those cases of serous peritonitis which recover after simple incision and evacuation of the fluid. I do not know what would have become of the abdominal swellings. If no operation had been done they might still have disappeared or each might have formed an abscess. The connective tissue cells of the part were clearly in a very unstable condition and it is easy to imagine that under suitable conditions a sarcoma might have been produced. At any rate it is of the highest importance to know that such chronic and seemingly causeless inflammations can occur in the body. Presumably they may begin in gland or in epithelium equally with the connective tissue and if this be so and the infection of cancer with a predisposition to it happen to be in the body such an inflammation may be the determining cause of its local manifestation. Indeed, in Mr. Willett's case (Case 4) a patient with such a vanishing tumour actually died from cancer growing in the neighbourhood of his pancreas, where he had already suffered from an inflammatory swelling which had disappeared after his abdomen had been opened to find out its nature. The effect of surgical interference upon these tumours seems to be identical with that which takes place when any inflammatory swelling is incised. Tension is relieved and a series of complicated physiological changes are set up which end in resolution. We are ignorant as yet of the nature of these changes, but we assume them to be the direct outcome of alterations in the vaso-motor and trophic functions. The older surgeons set these changes in action by bleeding, for in this way they obtained a local effect by modifying the whole blood-pressure and it is certain that phlebotomy cured many obscure swellings. Blood-letting fell into disuse, but time, bringing with it improved surgical methods, has led us to cure by adopting similar means. Instead of drawing blood from the arm we now attack the part affected, even though it be placed where the most enlightened or reckless of our surgical forefathers would have considered it criminal to explore.

It is comparatively easy to understand how a simple inflammatory swelling may disappear, but it is very difficult to realise, much more to explain, the vanishing of a malignant tumour. Yet there can be little doubt that sarcomata, and in some very rare cases even carcinomata, do actually disappear. In a cancer such a disappearance seems to me to be quite inconceivable, unless we assume the disease to be one of an infective character in which the result as measured by the growth is in direct proportion to the amount of poison absorbed or manufactured within a body which is more or less predisposed to its action.

In speaking of these vanishing tumours I have mentioned in each case that they have been only partially removed or that they have only been looked at and not removed at all. I would *not* have it understood from this that I countenance or in any way recommend the partial removal of a tumour or that I think it is a desirable proceeding. Modern surgery, based as it is upon pathology, teaches most emphatically that tumours should be removed as completely and as early as possible and that the more a swelling is considered to be malignant the earlier and more complete should be the removal. But it has happened in these cases that from one cause or another so complete a removal was impossible, yet by accident or good luck coupled with some unusual modification of the morbid process the results obtained were most satisfactory though the method adopted was in the highest degree unsatisfactory if we look to the means rather than to the end.

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[5] Brit. Med. Jour., vol. i., 1899, p. 257.

[6] THE LANCET, Feb 11th, 1899.

[7] Transactions of the Medical Society, vol. xix.

Chandos-street, Cavendish-square, W.

ACTINOMYCOSIS (?) OF THE OMENTUM; DEATH FROM PYÆMIA.

BY HENRY HANDFORD, M.D. EDIN.,
PHYSICIAN TO THE GENERAL HOSPITAL, NOTTINGHAM.

THE interest of the following case does not depend solely upon the diagnosis. Whether actinomycosis or not the distribution and course of the disease are uncommon and the mass of new tissue is something quite unusual except in malignant disease which this certainly was not. I know of no other disease except carcinoma (scirrhus) in which such remarkable hardness of the new tissue is found. All the more common causes of inflammation and suppuration in that region were excluded at the post-mortem examination; but, indeed, none of them usually produce the amount of new tissue found in this case. The patient from his occupation had to do with corn and it is probable that he swallowed some to which the fungus was attached and that so the omentum was reached from the transverse colon. The general *coup d'œil* bore a striking resemblance to other cases which have occurred in this neighbourhood, but as the actinomyces was not found the diagnosis must remain non-proven.

The patient was a robust gamekeeper. At the end of August, 1898, he was suddenly seized with violent abdominal pain which lasted three days and did not return. He remained in bed a week. For the previous five weeks he had been going about, but had been unable to work. He was admitted into the General Hospital, Nottingham, on Oct. 4th complaining of loss of strength and weight. He then weighed 11 st. 4 lb., whereas six weeks previously he weighed 15 st. 3 lb. He had had severe diarrhœa which on admission had ceased. The most marked feature during the past fortnight had been repeated rigors during which his temperature ran up to 103° F. It was supposed that he might have some internal abscess and he was sent into the hospital for careful examination and watching. A most diligent search was made for any signs of suppuration in connexion with the appendix or with an impacted gall-stone but without success. At this time there was no pain or tenderness and the abdomen, which was large, could be palpated with the greatest freedom without revealing anything abnormal. The temperature was always febrile. For about a month he improved, regained a little weight, and got up. On Nov. 6th for the first time he was slightly jaundiced and the urine contained bile. It was gone in 24 hours and never returned to any great extent though he was a little yellow at the last. He now gradually began to complain of pain in the epigastrium. The abdominal muscles were held rather more rigid than formerly, but no growth could be detected. He was seen repeatedly by my surgical colleague, Mr. A. R. Anderson, both before and after his admission to the hospital, but no accurate diagnosis could be arrived at and there appeared no opportunity of successful surgical interference. By Nov. 24th the patient had become much worse, and as he was anxious that something should be done it was explained to him that his condition was desperate but that the abdomen could be opened to search for an abscess. If one was found the opening of it might relieve him. An exploratory laparotomy was performed by Mr. Anderson. It was shown that there were no gall-stones and no abscess in the superficial parts, but the tissues were so matted together that a full exploration was not possible, especially as the bleeding was free. The patient died on the next day and the examination post mortem showed his condition to have been quite irremediable either by medicine or surgery.

At the necropsy the intestines were found to be extensively adherent. The mesentery was somewhat thickened. The main mischief was in the transverse meso-colon which was of wooden hardness and from one to two inches thick. It was of normal colour and looked like ordinary dense fibrous tissue. There was general interstitial suppuration, scores of small abscesses, varying in size from that of a No. 1 shot to that of a pea, being found. There was a larger abscess nearer the head of the pancreas containing about two ounces of thick greenish pus. The pancreas, though enveloped in this new tissue, was itself healthy as shown by microscopic examination as well as by the naked-eye appearance. Behind the stomach was an abscess containing about three ounces of thick pus, which communicated with the stomach by a minute recent perforation. From the extensive ulceration and sloughing upon the outer (peritoneal) surface of the stomach and the uninjured condition of the mucous membrane around the perforation it was quite evident that the perforation had taken place in the unusual direction from without inwards. The microscopic examination also states: "The sections of the wall of the stomach show suppuration outside the muscular coat; perforation has probably taken place from without inwards." Behind the transverse meso-colon as well as behind the gastro-hepatic omentum several smaller abscesses were found. The liver was slightly enlarged and contained several pyæmic abscesses. There was also suppurating pylephlebitis. The gall-bladder contained normal bile. There was no stone in the gall-bladder or in any of the ducts. The portal fissure was occupied by a hard mass of similar colour and appearance to the rest of the new tissue and about two inches in diameter. The pressure of this no doubt caused the jaundice observed during the latter part of his illness. The other organs, including the intestines, were normal.

The origin of the disease appears to have been in the neighbourhood of the transverse colon which was completely hidden and embedded in the suppurating omental tissue. There was no malignant growth of the bowel itself. The true great omentum below the transverse colon was only thickened for two or three inches below the bowel. The great mass of new tissue was between the transverse colon and the pancreas and between the stomach and the liver. To the naked eye the new tissue bore the strongest resemblance to actinomycosis in its colour, its consistence in inflammatory fibrous tissue, its extreme hardness almost resembling wood, and in the interstitial suppuration. The characteristic granules were not found but the search for them was not prolonged as the examination had to be made late at night.

The microscopic examination showed no evidence of inflammation or malignant disease in the pancreas. The lesion in the omentum and transverse meso-colon was entirely inflammatory and there was nothing to show the cause of the suppuration. The tissue was chiefly fibrous. It bore no resemblance to carcinoma. Many sections were stained for actinomycosis but none was found. This is not very remarkable considering how troublesome the clubs are to stain in human actinomycosis and how sparsely scattered the fungus may be.

Nottingham.

ROYAL FREE HOSPITAL.—The seventy-first annual meeting of subscribers, governors, and others interested in this hospital was held at the hospital in Gray's-inn-road on Feb. 22nd, the Hon. Mr. Justice Bruce, chairman of the committee, presiding. Among those present were Captain Jessel, M.P., Mr. Charles Burt, Dr. Samuel West, Mr. James Berry, Dr. Elizabeth Blackwell, and Mrs. Garrett Anderson, M.D. Paris. In moving the adoption of the report the chairman said that the committee considered that the time had come when a commencement should be made in carrying out the urgently needed building improvements referred to in the report—viz.: (1) the alterations and additions to the ward lavatories, sculleries, and bathrooms; and (2) better accommodation for the nursing staff. With regard to the latter it was proposed to build a fourth storey over the side portions of the central block, which would provide separate bedrooms for 27 sisters and senior nurses, an enlarged sitting-room, additional bathrooms, &c. The estimated total cost of these works is £8500, towards which the sum of £2870 is available.—Before the close of the meeting the Earl of Stamford was appointed to fill the vacancy of Vice-President caused by the death of the Earl of Lathom.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—Morgagni *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

UNIVERSITY COLLEGE HOSPITAL.

A CASE OF OPHTHALMIC HERPES WITH HYPOPYON-KERATITIS.

(Under the care of Mr. Percy Flemming.)

A man, aged 54 years, went to the casualty department of University College Hospital on Nov. 16th, 1898, on account of a burn of the head received in a gas explosion. He was treated by the house surgeon and 14 days later he was sent to the eye department as the eye had become inflamed. When Mr. Flemming first saw the patient on Nov. 30th his head was enveloped in bandages down to, and including, the eyebrows. The right eye showed much conjunctival redness with a little muco-purulent discharge. At the lower and inner part of the cornea was a small ulcer with a distinctly infiltrated edge; the anterior chamber was deep, the aqueous humour was turbid, and the iris was rather muddy. There was no hypopyon and nothing abnormal was found in the lacrymal sac. The bandages were not removed from the head and it was considered that the case was one of infective ulcer of the cornea due to the burn in the first place and to the state of the conjunctiva in the second. The patient was admitted into the general ward, the conjunctival sac was thoroughly irrigated with warm boric acid lotion, the lids were painted with nitrate of silver solution (10 grains to the ounce), and atropine drops and a quinine mixture were prescribed. The eye was not bound up. Two days later the ulcer had spread both superficially and deeply and there was a small hypopyon. On Dec. 3rd the lids were again painted and the ulcer itself was touched with pure carbolic acid; it was noticed that the patient seemed to feel very little pain when this was done. On the 5th the note states that the ulcer was cleaner but possessed still a well-marked infiltrated edge. A quinine lotion was ordered and the eye was bandaged. By the 8th the hypopyon had increased considerably and the ulcer had spread still further. There was still a good deal of conjunctival secretion and the lids were again painted with nitrate of silver and the eye was again bandaged. On the 10th Mr. Flemming for the first time saw the head dressed and it was then evident that in addition to the injury the patient was suffering from an attack of ophthalmic herpes. The right half of the forehead was red, the redness extending into the scalp, but being sharply limited by the middle line; there were several recent scars over this red area. Inquiry now elicited the fact that the patient had had much neuralgic pain over the right side of his head for some days previously to the accident, on account of which he first went to the hospital. Sensation was diminished but not abolished over the right side of the forehead and on the right eyeball. As soon as the "trophic" nature of the case was recognised the nitrate of silver was discontinued and the eye was kept firmly bandaged with a pad soaked in quinine lotion, but matters did not improve and four days later the ulcer had spread still more and the anterior chamber was quite one-third full of pus. On the 15th Mr. Flemming sutured the lids together, previously paring their edges for about the middle two-fourths of their extent. Union did not take place This was partly due to the fact that the patient, to use his own expression, "worked the eye well about" under the bandage. On the 20th, therefore, the lids were re-sutured and the stitches were removed four days later, good union resulting. The patient left the hospital on Jan. 4th, 1899. At this time it was quite possible to examine the surface of the cornea by making the patient look well to the right or left, the lids being separated at the inner and outer canthi. The ulcer had quite healed and no hypopyon could be detected. By the 7th the adhesions had stretched a little and it was possible to make a more thorough examination. There was no trace of hypopyon and the surface of the cornea was smooth. The pad and bandage were discontinued on the 23rd and the patient returned to work early in February still having the lids united.

Remarks by Mr. Flemming.—The interest and value of this case consist, I think, in the evidence which it affords respecting the efficiency of suturing the lids in cases of neuropathic keratitis. Looked at from this point of view it may almost be regarded as a crucial experiment. When the eye was first examined the nature of the case was overlooked, the dressing and bandages applied by the house surgeon concealing the skin eruption. When it was discovered that the patient was suffering from ophthalmic herpes the keratitis had spread and there was an extensive hypopyon, and I confess to having had some misgiving when I decided to suture the lids and tie the eye up. But under this treatment the inflammation promptly subsided and the hypopyon disappeared. To guard against a relapse the lids will be kept united a few weeks longer. On the other hand, the failure of treatment conducted on the ordinary lines for infective ulcers is equally striking. Further, the inefficiency of simple bandaging in these cases is shown, for the eye was treated in this way a few days after admission. Protection by pad and bandage is not effectual in keeping out particles of dust and fluff. I discussed the pathology of these cases in a paper published in The Lancet of July 2nd, 1898, and the occurrence of pain and iritis with a deep anterior chamber in this case lends some support to the views there expressed. If, as some suppose, these cases of neuropathic keratitis are merely examples of bacterial invasion of tissues, made prone to such invasion by being deprived of their nerve-supply, one would hardly expect healing to occur when the lids are sutured, the conjunctiva being inflamed at the time. In the paper previously mentioned the suggestion was made that the perverted nerve action resulted in an increase and alteration of the fluid secreted by the ciliary body, and in a similar way may perhaps be explained the conjunctivitis in this case. Suturing the lids seems the most efficient way of protecting the eye and the cornea is at the same time kept warm and moist and the healing process is thereby greatly favoured. This case further illustrates the fact that cases of ophthalmic herpes are apt to be overlooked and mistaken for other conditions. But attention to the unilateral character of the herpetic eruption should prevent mistakes being made. Probably the errors in diagnosis arise from ignorance of the existence of such a disease as "shingles of the brow" and this is one reason for publishing this case.

HUDDERSFIELD INFIRMARY.

TWO CASES OF ABDOMINAL SECTION IN WHICH UNUSUAL PATHOLOGICAL CONDITIONS WERE MET WITH.

(Under the care of Mr. S. Knaggs and Dr. E. A. Wright.)

The existence in the first case recorded below of an irreducible inguinal swelling and the history of a hernia fully justified the diagnosis of a strangulated hernia when signs of intestinal obstruction appeared; and indeed the diagnosis of suppurative peritonitis is not rarely a matter of great difficulty, for even when the abdominal cavity contains a large quantity of pus distinctive signs of peritoneal inflammation may be conspicuously absent. In the second case the puckering of the intestine appears to have been the cause of the intestinal obstruction and Dr. Boyd's explanation of the mode of its occurrence is probably correct. Both cases are of much interest and are well deserving of publication. For the notes of the cases we are indebted to Dr. Robert Boyd, senior house surgeon.

Case 1. *Perforative appendicitis simulating a strangulated hernia in a patient the subject of congenital hernia.*—A well-developed youth, aged 19 years, was admitted into the Huddersfield Infirmary on Oct. 11th, 1898, under the care of Mr. S. Knaggs. The patient previously to Oct. 6th enjoyed good health but he had had from infancy a congenital left inguinal hernia. He had not worn a truss for this for some years and had suffered no inconvenience from it at any time. On the evening of the 6th while in bed he complained of pain in the abdomen shooting to the umbilicus. Shortly after this he began to vomit greenish fluid and partially digested raw apples, of which he had partaken freely during the day. The pain and vomiting continued during the night. The bowels were moved slightly in the morning, a constipated motion being the result. No medical man was called in until the 9th, fully two days after the illness began. The patient's condition then was that of one suffering from acute abdominal trouble. He had been vomiting brown frothy material which had a distinctly feculent smell. The abdomen was distended and some dulness was present in the left iliac region. There was what appeared to be a hernia in the left inguinal region. It was painful on pressure, could not be reduced, and gave no impulse on coughing. The temperature was 101° F. and the pulse was 120, hard, and wiry. The symptoms, both local and general, pointed to a left inguinal strangulated hernia. As the parents refused to have any operation performed palliative treatment was adopted until the 11th—i.e., five days after the onset of the attack. The patient was then admitted into the Huddersfield Infirmary. His condition was grave. There was persistent feculent vomiting, the tongue was dry, and a thick brown fur covered the dorsum. The temperature was normal and the pulse was 120 and feeble. The abdomen was distended, tympanitic in front, but dull in the flanks. There was complete absence of pain except on pressure at the umbilicus and over a tumour in the left inguinal region. On examining the tumour no impulse could be detected on coughing. It could not be reduced into the abdomen and was dull on percussion. The bowels were slightly moved by enema on the day of admission but no flatus had passed since. The only hope lay in an immediate operation and the hernia was cut down upon, but as there was considerable difficulty in getting through the sac the abdomen was opened above the internal abdominal ring, the intention being to examine the internal ring from within. The whole abdominal cavity was found to be filled with pus. No hernia was detected in the left inguinal canal although there was a hernial sac. The patient's condition admitted of little more than washing out the abdomen and draining it. His death which seemed almost a foregone conclusion occurred some five hours later.

Necropsy.—The post-mortem examination revealed a ragged ulcerated perforation in the vermiform appendix. A small hard nodule of fæcal material was found close to the appendix and had evidently escaped through the perforation and lodged in the peritoneal cavity. The abdominal cavity was in a condition of general septic peritonitis. The hernial sac on the left side was half an inch thick and communicated with the abdomen by an aperture admitting the little finger. The sac was filled with pus from the abdomen.

CASE 2. *Intestinal obstruction.*—A married woman, aged 52 years, was admitted into the Huddersfield Infirmary on Nov. 16th, 1898, under the care of Dr. E. A. Wright. She exhibited the usual signs of intestinal obstruction and there was a history of illness of five days' duration. The attack commenced whilst the patient lay in bed. She had always enjoyed fair health in the past. The case on examination was deemed so urgent that an immediate laparotomy was performed. At first no definite lesion could be found, but a piece of dark claret-coloured intestine close to the cæcum was discovered. The mesentery corresponding to this piece of bowel was also deeply injected and embedded in it was a calcareous gland. The intestine was thrown into a number of folds around this point but no actual obstruction seemed to exist. On removing the gland, however, the intestine appeared to liberate itself as evidenced by the intestinal contents passing on. The wound in the mesentery made after removing the gland gaped about two and a half inches, showing that some traction had been exercised by the mesentery on the intestine. The patient died soon after the completion of the operation.

Necropsy.—At the post-mortem examination the interior of the affected piece of intestine was found to be studded with a few small ulcers, showing that some interference with the nerve- and blood-supply of the intestine had taken place there. This was probably due to the nerves and blood-vessels being slowly pressed upon in the contracted piece of mesentery.

Remarks by Dr. BOYD.—The notes on the above cases may serve to give some idea of the difficulty in diagnosing rare and peculiar forms of intestinal obstruction. In Case 1 the obstruction seemed to depend on the presence of a strangulated hernia but was discovered later to be due to general septic peritonitis consequent upon perforation of the vermiform appendix. Here, then, a patient who was the subject of a left congenital hernia suffered from perforative appendicitis with its accompanying results simulating a strangulated hernia. The diagnosis might have been more accurate had a medical man seen the case at the outset. There might then have been local signs of appendicitis, but when the case was seen all local signs were masked by the general condition. In Case 2 the cause of the obstruction was not very clear but was thought to have some relation to a mass which could be felt per rectum on the brim of the pelvis. This idea turned out to be correct, but the mode in which the obstruction was brought about is so rare that I thought it would be interesting to place the facts on record. The case may be classed under the head of obstruction from what Fagge in his "Practice of Medicine" describes as contractions. He gives a list of 12 cases taken from Guy's Hospital Reports, but among these only three correspond with the above case. The mode of obstruction is peculiar from the fact that a definite point cannot be located beyond which the intestinal contents cannot pass. The obstruction is not produced by narrowing of the lumen of the gut but by the intestine being gathered into folds and one fold above pressing into and obstructing the lumen of the intestine below. This mechanism taking place at several points in a foot or more of intestine causes the obstruction. I have demonstrated this by taking a piece of small intestine with its mesenteric attachment and gathering the mesentery together. The intestines were immediately thrown into a number of folds and a condition of mechanical obstruction existed. In carrying out this experiment I ran a stream of water through a piece of small intestine several feet long. On making traction on the mesentery the intestine was thrown into folds and the water ceased to pass along the intestine, even although some pressure was made on the loops of bowel. On releasing the mesentery the obstruction was relieved and the water continued to run as before. I am indebted to Mr. Knaggs and Dr. Wright for permission to publish these cases.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Extirpation of Aneurysms.

A MEETING of this society was held on Feb. 28th, Mr. BRYANT, President, being in the chair.

Mr. W. J. WALSHAM read a paper on a case of Extirpation of a large Non-pulsating Aneurysm involving the Common, Internal, and External Carotid Arteries of the Right Side of the Neck, with remarks on Non-pulsation in Aneurysms and the Treatment of Aneurysms by Extirpation. The patient, a strong, healthy-looking man, 49 years of age, had noticed a small swelling for six years on the right side of his neck. It had grown slowly and without pain until a few months before he came under observation, since which time it had got rapidly larger. The swelling extended from the angle of the jaw nearly to the clavicle and from near the middle line in front passed deeply beneath the sterno-mastoid muscle. It was roughly globular in shape and generally hard in consistency but soft and fluctuating in places. The skin was not adherent and the swelling had no connexion with the larynx or bones. There was neither pulsation nor bruit and nothing escaped on puncture with an exploring syringe. It was thought that the swelling was glandular and probably malignant. An exploratory incision was made and the tumour discovered to be an aneurysm. No pulsation was detected at the operation. The common carotid was ligatured in two places below the sac and divided between the ligatures, the sac was dissected up, collateral vessels entering it were secured as met with, and finally the internal carotid was ligatured above. The sac was then removed entire. The patient made a good recovery. Mr. Walsham observed that non-pulsation in an aneurysm, except when it had become consolidated, diffused, or inflamed, appeared to be rare, only a few cases having been found recorded in literature. The cause of non-pulsation in these was not very evident, but was attributed either to leaking of the sac or to blocking of its mouth with clots. Nine cases of extirpation of carotid aneurysms were quoted, all the patients recovering. The wider question of the treatment of aneurysms by extirpation was next discussed and a table of 33 cases of spontaneous aneurysms treated by extirpation was appended. The chief methods of extirpation employed were—(1) the old operation of opening the sac, turning out the clots, and securing the artery above and below; (2) the old operation plus the removal of the sac by dissection; and (3) the removal of the sac after the artery had first been tied above and below. The last method, slightly modified as in Mr. Walsham's case by dividing the proximal artery between two ligatures, dissecting up the sac, and finally tying the distal vessel, was submitted as the ideal method of extirpation. The conditions most favourable for extirpation appeared to be—(1) where there was insufficient room to apply a ligature to the artery on the proximal side or where the application of a proximal ligature was attended with great risk as ligature of the innominate for subclavian aneurysms; (2) where a number of large vessels communicated with the sac; (3) where other measures had failed to cure the aneurysm, (4) where the aneurysm, as in the popliteal artery, had become diffused or rupture of the sac or gangrene of the limb was threatened; and (5) where the setting free of emboli, as in carotid aneurysms, would be attended with risk of cerebral softening. From a review of the 32 cases and from the experience gained in his own case Mr. Walsham held that it was shown that the operation of extirpation might be looked upon as a most successful method of treating an external aneurysm and was perhaps the best that could be adopted in the conditions above mentioned. But for an ordinary popliteal aneurysm without complications enucleation could not be such a simple or satisfactory procedure as ligature of the popliteal or even of the femoral artery at the apex of Scarpa's triangle.

Mr. R. J. **Godlee** mentioned an unpublished case under his care in which he excised the sac of a popliteal aneurysm. Ligature of the femoral artery at the apex of Scarpa's triangle was first performed, but as the pulsation returned extirpation of the sac was performed. As a tourniquet could be used there was not the trouble with hæmorrhage met with in Mr. Walsham's case The enucleation was by no means easy, as there were many vessels coming out of the sac and there was great difficulty in freeing the sac from the vein The operation was not at first satisfactory as there was much anxiety owing to the amount of œdema of the foot. Recovery was slow, it being several months before the patient could return to his occupation. The difficulties met with in this case made him disinclined to advise enucleation as a routine treatment for popliteal aneurysm The condition of the artery must be ascertained as it would be most difficult to deal with the artery if it was much calcified. With reference to the cause of non-pulsation in some aneurysms Mr. Godlee suggested that one possible cause was from part of the aneurysm pressing on the artery below.

Mr. **Holmes** referred to a paper which he published in the St George's Hospital reports many years ago in which he attempted to account for the occasional want of pulsation in aneurysms. In one patient mentioned in that paper there was a tumour in the loin supposed during life to be either a renal tumour or an aneurysm. There was no pulsation and no bruit could be heard over it. It proved to be an aneurysm communicating by a very small aperture with the abdominal aorta. Another case was that of a man admitted for a fluctuating, non-pulsating tumour in the groin supposed to be a psoas abscess It proved itself to be an aneurysm by rupturing, and it was found to have arisen from the abdominal aorta and to have tracked down to the groin A bruit was often not detected because the nature of the case not being suspected it was not listened for. Nevertheless, in a number of cases it was certainly absent. Pulsation might be prevented by the aperture of the aneurysm being blocked by soft clot and so preventing the free exchange of blood to and from the artery. The size of the aperture would also affect the production of a bruit, as could be shown by imitating a bruit with the lips If too large or too small an opening were made the sound could not be reproduced. He considered that the plan of treatment pursued by Mr. Walsham in his exceptional case was the best which could have been adopted.

Mr. **Pearce Gould** related a case in which ligature was performed on one side and extirpation of the sac on the other. The patient was a man, a soldier, 28 years of age, whose right femoral was ligatured for popliteal aneurysm was discharged from the army and in January, 1898, he came under Mr. Gould's observation with an aneurysm of the size of an orange in the other popliteal space. Mr. Gould decided to excise the sac, but the dissection of the entire sac was found to be so difficult from the close adhesion to the vein that the portion of the sac in contact with the vein had to be left. The interest of the case lay in the fact that while pulsation had not returned in the right tibials six months after the ligature of the right femoral it returned on the left side on the thirteenth day after excision of the sac The man himself asserted that the discomfort from numbness and other signs of disturbance of the circulation was much greater after ligature The operation of excision when it could be easily and cleanly performed certainly gave rise to a minimum disturbance of the circulation but where there was extensive adhesion of the vein it must be a perilous method. He asked why Mr. Walsham thought it so necessary to remove the whole sac. What was the objection to ligaturing the main vessels and cutting away those portions of the sac which could be easily removed? Mr. Gould also mentioned the case of a man, 69 years of age, who was very apt to faint. He had a popliteal aneurysm and it was thought advisable to ligature the artery as the shortest operation. Gangrene, however, supervened and amputation had to be performed. Possibly if excision of the sac had been performed the limb might have been saved.

Mr. A. A. **Bowlby** had seen Mr. Walsham's patient and confirmed the statement that there was no pulsation of the tumour. He thought that there would always be a stage during the spontaneous cure of an aneurysm at which pulsation of the sac would be absent. Another factor was the diminution in calibre in the artery between the heart and the aneurysm which could be demonstrated in all museum specimens. Mr. Bowlby thought that this was due to the establishment of collateral circulation. As to the value of the operation of excision as opposed to ligature he thought that excision as a routine practice would expose the patient to unnecessary risk of bleeding and to injury of the vein. From observations on museum specimens he had satisfied himself that the artery near to a popliteal aneurysm was much more healthy than the artery higher in the thigh and that the ligature of the femoral at the apex of Scarpa's triangle was unnecessary. The ligature should be placed on the popliteal artery itself or on the femoral at the lower part of Hunter's canal

The **President** agreed that the operation was the best in the present case but did not think that it should be substituted for the old method. There was much risk of wounding the vein and he well remembered that the cases of popliteal aneurysm which went wrong were those in which the vein was injured and thrombosis had occurred. He had excised small aneurysms in the forearm, foot, and in two cases in the course of the brachial artery and he had tried to excise a popliteal aneurysm in one case of a man over 80 years of age The aneurysm had ruptured under the skin and the President first ligatured the femoral artery in Hunter's canal and then tied the artery on the other side of the sac and tried to excise the latter, but found it impossible to do so. The President emphasised the importance of examining for a bruit, as there might be a bruit even in a non-pulsating aneurysm.

Mr. **Walsham**, in reply, said that he believed that for ordinary cases dissection did not compare with ligature. In the case of popliteal aneurysm he agreed with Mr. Bowlby that the lower part of the femoral should be tied. He thought that if portions of the tumour and blood-clot were left that the risk of suppuration was greatly increased, and further that there was a risk of overlooking some collateral vessel the aperture of which might be only insecurely closed by blood-clot which might subsequently be dislodged and give rise to serious hæmorrhage.

MEDICAL SOCIETY OF LONDON.

Auto-Intoxication and its Relation to the Treatment of Disease.

A **meeting** of this society was held on Feb. 27th, the President, Mr. **Edmund Owen**, being in the chair.

Dr. **Sidney Martin** read a paper on Auto-Intoxication and its Relation to the Treatment of Disease. He said that in attached to the words "infection" and "intoxication," and by "infection" was meant the invasion of the body by a living germ which by itself or its products of activity injuriously affected the tissue, and by "intoxication" was meant the poisoning of the body by chemical agents usually the products of activity of the living germ. No definition of these processes could however be rigid and a typical example of "infection" was seen in anthrax when from the primary infection the bacillus invaded the body, and a typical example of "intoxication" in tetanus when the bacillus was localised to the seat of injury and the toxic substances were absorbed from this spot. In "auto-intoxication" the body manufactured its own poisons but the term comprised many different conditions, in some instances so widely different that he questioned the propriety of retaining the term. He described auto-intoxication under three headings: (1) auto-intoxication of gastro-intestinal origin; (2) auto-intoxication occurring in the course of chronic disease, such as chronic renal disease, diabetes, &c.; and (3) auto-intoxication occurring in association with the glands of the body, the thyroid, suprarenal pituitary body, and also with the liver, pancreas, and testicle. He pointed out that the activity of a tissue in disease might be altered and so produce symptoms in various ways—e.g., by interference with vascular and nervous supply, by the accumulation of products of its activity, by the preponderance in it of certain mineral salts, especially potash, and by the action on it of some poison of external or internal origin. It followed that the determination of the cause of the effect on the tissue might be difficult if not impossible; in other words, that what was observed as a symptom might be produced by many different causes which might throw an organ or tissue out of activity. A poison, he remarked, did not necessarily kill and, failing death, the final effect of the poison was in many cases the result of an action on various tissues and organs. This was particularly to be noticed with the poisons which acted in disease. In reference to auto-intoxication of intestinal origin the chief examples were ascribed to bacterial decomposition of the gastro-intestinal contents as distinguished from bacterial infection of the intestine. With the exception of the bacillus coli communis most of the intestinal bacteria were non-pathogenic. If, however, the products of putrefaction were absorbed the body was poisoned and this process frequently passed from one of intoxication to one of infection of the intestinal wall or of the peritoneum. He thought that intestinal bacterial intoxication should be grouped with the bacterial processes that occurred in disease and not as an auto-intoxication. Another form resulted from the indigestion of food, in which, in addition to the local symptoms, there were others described as remote or reflex. This subject was a very complex one and must be discussed in reference to auto-intoxication since during the process of digestion bodies were formed which possessed poisonous properties. He pointed out that normally in the process of absorption the albumoses were transformed by the mucous membrane of the stomach and gut into the proteids of the body, but it was quite possible that their occasional presence in the blood might account in part for some of the symptoms of disordered nutrition. Passing on to group 2 he observed that some of the cases must probably be ascribed to an auto-intoxication in which the poisons originated in the tissues of the body and were not due to bacterial activity. Although most of the proteid substances of the body were non-toxic some had a distinct physiological action, but it was quite possible that in disease some of the altered products might determine functional disturbances. He added that so far no poisons resulting from the splitting up of proteid or other body substances without the aid of bacteria had ever been separated. Discussing the nature of Bright's disease and diabetes he suggested that the symptoms of uræmia should be ascribed to the selective action of a poison or poisons on the cerebral centres. He referred to Bouchard's contention that in uræmia the normal toxicity of urine was greatly diminished, from which that observer inferred the retention of poisons in the body. The substances met with in diabetic patients which were not present in health were not very toxic and no poison had been isolated which would account for the phenomena though the occurrence of peripheral neuritis might be taken as evidence of an intoxication. He discussed cholæmia and anæmia from this point of view. He then passed on to consider the effects of removal of normal glands in respect of nutrition and their bearing on disease. The effects of their removal had, he said, been ascribed to the absence of an internal secretion which was normally given to the body and which was essential for the carrying out of certain physiological processes, or, on the other hand, the phenomena following removal might be due to the non-elimination of some poison inimical to life. In view of the well-marked physiological action of certain normal glands it was fair to suppose that in the normal body these glands formed substances as internal secretions which were essential to the maintenance of the complex physiological processes of health. But an excess of this very physiological activity might in itself be a determinative cause of disease.

The President after congratulating Dr. Martin on his paper said that he believed that rickets was a condition produced by auto-intoxication and that the poison probably arose from the gastro-intestinal tract. This condition had not been mentioned by Dr. Martin in his paper nor had the condition of peripheral neuritis following influenza. He mentioned two other conditions which he thought were due to auto-intoxication. The first was the sense of fatigue and headache which often occurred after unwonted exercise and the second was the disturbance of the renal function which sometimes followed massage.

Dr. Mott said that with regard to auto-intoxication as affecting the nervous system he had worked at the subject on bio-chemical lines. In general paralysis of the insane well-marked degenerative changes took place in the nervous tissues of the body leading to the formation of a fatty substance which stained black with osmic acid. He had estimated the comparative amount of phosphorus in the two sides of a spinal cord from a case of hemiplegia and he had found that the amount of phosphorus was diminished on the degenerated side. The myelin became broken up into glyco-phosphoric acid and a neutral fat. In order to test the toxic action of the cerebro-spinal fluid a given quantity of normal cerebro-spinal fluid was injected into an animal; no effect was produced. The cerebro-spinal fluid from a case of general paralysis of the insane was injected and caused a very marked fall of blood-pressure. It was then found that an injection of cholin gave the same results. The platinum salt of the same body crystallised out produced the same effect. It seemed therefore probable that cholin was the toxic agent in general paralysis of the insane and was formed by the breaking up of the phosphoric fats into a neutral fat and cholin, the cholin being absorbed into the cerebro-spinal fluid, and some of the effects of the disease might be caused by the venous stasis caused by that body. Cholin acted upon the muscle fibres of the vessels and caused dilatation of the splanchnic vessels. Although cholin was poisonous it was not nearly so poisonous as neurin which caused a rapid fall of blood-pressure followed by a rise in pressure and respiratory spasm resembling in its effects the poison muscarine. Glyco-phosphoric acid injected into the body gave rise to no toxic effects. In the class of cases above referred to the cause of death was not obvious, but on examination of the various organs—heart, liver, kidney, diaphragm, &c.—very marked fatty changes were found. This was especially marked after epileptiform convulsions. One case, a youth, aged 18 years, had been examined; he was in perfect bodily health till two days before death when he was seized with epileptic fits and passed into a condition of *status epilepticus* from which he died, and on examination it was found that extensive fatty degeneration of his viscera and muscles was present. Insufficiency of oxygen probably accounted for the presence of fat in the muscle.

Dr. Washbourn considered the title "auto-intoxication" misleading as it had been applied to two distinct conditions; firstly, the intoxication due to the absorption of substances living or dead from the intestine, and secondly to the condition met with in cholæmia, uræmia, and similar diseases. In the first group many of the cases were infective and in the second group there was still lacking the proof that they were due to the circulation of poison in the blood. With regard to protection against infection by the intestine it would seem to depend on some condition of the mucous membrane which prevented the passage of bacteria and it was only when the nutrition failed that bacteria and the poisons produced by metabolic processes passed through the mucous membrane of the intestine. It was well known that pathogenic organisms were often found within the body; for instance, the diphtheria bacillus was found in the throat giving rise to no toxic symptoms, and it suggested that the body possessed some power of inhibiting the functions of the bacteria. In reference to the various forms of intoxication occurring in disease of the liver and kidney it was pointed out that all the glands of the body possessed either a secretory, excretory, or metabolic function, and that the secretory and excretory glands had also a metabolic function and that it was probable that in uræmia the condition of the patient was not so much due to the retention of certain salts as to the altered nutrition of the cells of the kidney.

Dr. MARTIN replied.

The PRESIDENT announced that the Fothergill prize had been awarded to Dr. S. Monckton Copeman for his recent researches in connexion with glycerinated vaccine.

CLINICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Feb. 24th, the President, Mr. LANGTON, being in the chair.

Dr. PARKES WEBER showed a case of Re-commencement of Muscular Atrophy long after infantile paralysis. The patient was a lad, aged 17 years, who suffered from severe infantile palsy at the age of two years. About four or five months ago he noticed loss of power in the right hand and wasting in the right thenar muscles. The original disease in infancy affected both right limbs, the right side of the face, and probably also the left lower limb. As a result the whole right lower extremity was wasted and almost completely useless. It was possible that the paralysis of the right arm and right half of the face, from which the patient recovered, were due to a temporary affection of the cerebral cortex (polio-encephalitis of Strümpell) occurring simultaneously with the acute anterior poliomyelitis.

Dr. CAHILL showed a woman, aged 27 years, with Hypertrophy of the Right Breast due to pressure of the paralysed and contracted right arm. At the age of nine years she had right hemiplegia after diphtheria and the right arm became spastic and contracted, being firmly flexed and adducted so that the hand pressed on the thorax just above the mamma, and this breast had always been larger than the other. That this was due to the pressure was confirmed by the diminution which had taken place since the arm had been kept extended at night by a splint.—The PRESIDENT thought that the breast was not so much hypertrophied as displaced downwards by the arm.

Dr. H. A. CALEY showed a woman, aged about 40 years, suffering from Pulmonary Fibrosis associated with Tabes Dorsalis and Arthropathy. The patient first went to St. Mary's Hospital in October, 1896, with characteristic symptoms of tabes. As there was some cyanosis of her lips he examined her chest and found signs of pulmonary fibrosis, most marked on the right side, a cavity at the right posterior apex, and bronchiectasis at the right base. She had no cough or other pulmonary symptoms. There was a history of her having attended a hospital for chest trouble at the age of 13 years, and Dr. Caley thought that the chest trouble dated from then. In 1897 she developed painless effusion in both knees of the type described by Charcot in tabes. Dr. Caley regarded the association of the pulmonary and nervous diseases as purely accidental.

Dr. BERTRAM HUNT showed a boy, aged six years, suffering from Rheumatoid Arthritis with enlargement of the Spleen and Lymphatic Glands. While in hospital suffering from tonsillitis and broncho-pneumonia the knees and elbows became painful and then swelled. The effusion was not great and skiagrams showed that the bones were normal. There had been irregular pyrexia, the temperature sometimes reaching 104° F., progressive anæmia, enlargement of the lymphatic glands in the axilla and groins and considerable enlargement of the spleen. Bacterial examination of the synovial fluid gave negative results. Dr. Hunt thought that the joint disease had been secondary to the tonsillitis.

Dr. WASHBOURN and Mr. ARBUTHNOT LANE showed a woman from whom Mr. Lane removed a Tumour growing from the pia mater over the arm area two years ago. The case was recorded in the Transactions of the Clinical Society, vol. xxx., p. 164. Permanent paralysis of the right arm had followed the operation but she was otherwise in good health and there had been no recurrence of the fits from which she previously suffered.

Mr. C. E. MOUAT-BIGGS showed a young man suffering from Factitious Urticaria. The patient was a healthy athlete who had never suffered from urticaria from any of the usual causes, but remarkable urticarial wheals could be induced anywhere on his skin by drawing lines on it with any blunt instrument. A white wheal rose on a scarlet background forming an elevation of quite an eighth of an inch. This reached its maximum in five minutes and faded in the course of an hour. There was not the least itching or discomfort. Pressure alone brought them about. Some cases had been described in which similar wheals were produced by local cold such as that by ether spray, several of the patients having also paroxysmal hæmoglobinuria, but neither of these conditions existed in this patient.

Dr. RAYMOND CRAWFURD (with Mr. LOCKWOOD of Sheffield) showed a well-marked example of Myositis Ossificans Progressiva in a boy aged six and a half years. There were no traceable evidences of rheumatism in the family, though the child himself had disease of the mitral valve which presumably was rheumatic. Injury, as in so many cases, appeared to have been the direct exciting cause at two and a half years old. The bony growths for the most part seemed to have originated from the spinous processes of the vertebræ and to have spread into the retro-vertebral muscles, more particularly the latissimus dorsi and trapezius, the child's back being traversed in several directions by elevated ridges of bone. The fixed curvature of the spine and the rigidity of the cervical muscles gave the child a very characteristic attitude. The upper arms were glued to the sides by ossification of the humeral attachments of the latissimus dorsi on either side. Skiagrams were handed round to show the actual condition of the thumbs and great toes. The shortness of the thumbs was chiefly due to shortness of the metacarpal bones and their rigidity to synostosis of the first and second phalanges. In the great toes the metacarpal bone was completely united by bone to the first phalanx and the effort of nature to compensate this condition had resulted in a throwing outward of the ungual phalanx beneath the second toes.

Dr. LEONARD GUTHRIE showed a case of Myopathy in a child, aged four years. The disease appeared to have been congenital. The child had never been able to walk or stand. He could sit up, but easily fell backwards and was unable to rise. All the muscles were extremely weak, but in the arms he could perform most movements although feebly. In the legs there was almost complete loss of power. There was diminution of both faradaic and galvanic irritability but no definite reaction of degeneration.

Dr. GUTHRIE also showed a boy, aged six years, with Infantile Paralysis affecting Both Arms and also the Intercostal Muscles, so that the breathing was purely diaphragmatic. The legs were unaffected.

Dr. STCLAIR THOMSON showed a man, 36 years of age, complaining of Dysphagia and found to be affected with unilateral paralysis of the eighth and bulbar nerves. He had complained of giddiness and deafness for three years and a year ago he became hoarse and had difficulty in swallowing. On examination his left vocal cord was found to be paralysed. There was no œsophageal obstruction. Six months ago his palate became paralysed on the left side and taste was lost on the back of the tongue on that side. The pulse had been rapid throughout. There was no specific history, but considerable improvement followed a course of mercury and iodide of potassium.

Sir HUGH BEEVOR showed a case of Chronic Rheumatic Arthritis in a man, aged 60 years. It was almost confined to the metacarpo-phalangeal joints in either hand. The fingers were flexed to the ulnar side. This was attributed to the use of his hands in working the large "sweeps" of a barge.

Dr. HARRY CAMPBELL showed a case of Asthenic Bulbar Paralysis in a woman, aged 29 years, which he believed to be the fourth reported in this country. The paralysis was incomplete but became much aggravated if the muscles were used. Symptoms showed themselves 15 months ago, when she noticed that she had difficulty of utterance if she sang for a short time. At the present time all the muscles ordinarily concerned in bulbar paralysis were affected by this curious weakness and also the anterior part of the occipito-frontalis, and occasionally there had been loss of power in the arms when they had been raised for a time. The symptoms were always better in the morning after a night's rest. No lesion had been found in the brain in any of the recorded cases. There was no sensory change and the electrical reactions were normal.—Dr. J. A. ORMEROD said that he had seen an exactly similar condition affecting the upper muscles of the thigh in a man.

Mr. A. H. TUBBY showed a man, aged 65 years, suffering from Multiple Sarcomatous Tumours of the Skin. The primary tumour was in the upper part of the right side of the scrotum and was noticed six months before. A second tumour appeared on the left side and then one under the jaw. Now there were hundreds, some of them of considerable size, all over the surface of the body. The liver was enlarged and there was some jaundice.—The PRESIDENT referred to a similar case and commented on the small disturbance of the general health which such patients presented.

Mr. TUBBY also showed a child with an Anterior Congenital Dislocation of the Hip. He remarked that this form was more common than usually described, being present in one-third of the cases. It was uncertain whether the condition was due to intra-uterine dislocation or birth dislocation. In this case he had tried to replace the bone but had failed as there was no definite acetabulum.

EPIDEMIOLOGICAL SOCIETY.

Typhoid Fever.

A MEETING of this society was held on Feb. 17th, the President, Dr. FRANKLIN PARSONS, being in the chair.

Dr. BOOBBYER, medical officer of health of Nottingham, read a paper on Ten Years' Experience of Typhoid Fever in a Midland Town. In this, he said, his first aim was to show "the definite causal relation subsisting between the accumulation of organic filth in dense urban districts and the endemic occurrence of enteric fever." The labours of Pettenkofer in directing attention to the soil as the proper habitat of the typhoid poison, the discovery of the bacillus by Eberth, Gaffky, and Klebs, and the confirmation of Pettenkofer's doctrine by Dr. Sidney Martin's studies of the behaviour of the bacillus had brought order out of chaos, but there was still much to learn as to its life-history in relation to the endemic and epidemic prevalence of the disease. The reports of Sir R. Thorne, Dr. Bulstrode, and others showed that in this country there was a growing conviction that too much importance had been attached to the agency of water and milk as seen in occasional outbreaks to the neglect of the conditions on which typhoid fever depended in its annual and more permanent prevalence. After giving an account of the routine practice and of the provision of hospital accommodation in Nottingham and a full description of the physical and geological conditions of the district, the elevation of the different parts of which varied from 80 to 400 feet above the normal level of the river Trent, and which for the most belonged to the Bunter sandstone and red marls of the Trias, except on the south where the soil consisted of alluvium and gravels, he described the remarkable holes and caverns in the rock which were constantly met with in sewerage and building operations and which were frequently utilised as cesspits, the cleansing and filling up of which was often a work of considerable difficulty. Prior to the Act of 1845 there was within the limits of the ancient city a population of over 50,000 crowded on 927 acres of sewage-sodden, pervious soil. Extensive rookeries had been cleared by the railway construction now going on, the excavations revealing a depth of 30 feet of made soil, yielding relics of many centuries of occupation as did also the black, cheesy organic deposits which filled the ancient town ditch. The Borough Extension Act of 1877 brought in a number of villages and districts which were being rapidly built over, nearly 1000 houses having been erected in each year of late, many of them in the "Meadows," a low-lying district exposed to floods. From the year 1700 the water-supply had been drawn from the Trent till 1856, when a succession of borings were made in the rock at a distance from the town, which now enjoyed a supply of 21 gallons daily per head of excellent water. The sewers were all of modern construction and were well planned, the sewage (from 6,000,000 to 7,000,000 gallons daily) being conveyed to a farm of 1800 acres six miles away partly by gravitation and partly by pumping. But there were still only 10,000 water-closets; in 400 houses midden-privies were retained and the remainder were provided with 40,000 pails. The death-rate from typhoid fever was always above the mean of the "great towns," except in 1879, 1892, and in 1888, for the deaths in the early months of that year belonged properly to the great wave of the previous autumn. In these years the mean temperature of the summer and autumn was distinctly below the average and the mortality from diarrhœa was also very low, but there was nothing to be noted in the rainfall. No relation could be traced between the soil or elevation and the incidence of the disease; between altitudes of 100 and 300 feet above ordnance datum; or between the back-to-back houses in the city and the detached cottages of Radford. Poverty, dirt, overcrowding, soil-pollution, and retention of fæcal matters in privies or pails were the essential conditions. In one low-lying district where large quantities of "made soil" were deposited on the alluvium and gravel for the purpose of raising the site the incidence of the fever was increasing yearly. Here, too, the foul mud left behind after floods added to the pollution of the soil, but the portion of the Meadows to the south of the Trent, at the same level and on the same subsoil, enjoyed comparative immunity, the houses being of a better class and made soil not being used. Throughout the district 86 per cent. of the cases occurred in houses having five rooms or less and 14 per cent. only in those having more, though these latter constituted from 45 to 50 per cent. of the whole number. The incidence of the disease on houses with water-closets was one in 558, with pail-closets one in 120, and with midden-privies one in 87. It might be objected that the first were for the most part of a better class, but the difference between the two latter groups was striking and could not be thus explained, or otherwise than by the soil pollution inseparable from privy-middens which was aggravated by the frequent practice of depositing the filth during its removal on the ground, and perhaps again in the street before carting it away. Though the disease was not so highly infectious as scarlet fever or measles he was convinced that it was far more easily and frequently spread by personal intercourse than was generally believed. Uffelmann and Germano had shown that the bacilli retained their vitality for a long time when sufficiently dried to be blown about as dust, and he had had to investigate several outbreaks which could not be explained otherwise than by personal intercourse, the evidence of which was complete. In the general hospital 848 cases had been treated in 10 years, and 22 of the staff had contracted the disease, or 2·5 to 100 patients. In the same period there had been 157 cases in the children's hospital, 11 cases occurring among the staff, or 7·0 to 100 patients. He had thus at length overcome the reluctance of the authorities to provide for the isolation of what they had held to be a non-infectious disease. He had traced several outbreaks to contaminated milk, but none to shell-fish, notwithstanding the enormous consumption of mussels, &c., by the colliers. His conclusions were: 1. That a sustained mean temperature of over 55° F. usually preceded an autumnal rise in the prevalence of typhoid fever, a low summer temperature having the opposite effect. 2. That the disease was endemic in poor, crowded urban districts, irrespective of elevation or of geological formation wherever favourable conditions, especially soil pollution, were present. 3. That even in the presence of such conditions as made soil and pail-closets the better class of houses suffered less than the poorer similarly circumstanced. 4. That the incidence was heavier on houses with dry closets than on those with water-closets and among the former on those with middens than on those with pails, the difference being more marked the poorer the class of houses. 5. That it was directly communicable by personal intercourse even in well-arranged hospitals, and much more so in the confined dwellings of the poor.

The PRESIDENT remarked on the parallelism of typhoid fever and summer diarrhœa in their relations to temperature and on the immunity acquired by residents in insanitary localities. He thought that much harm was done by underrating the communicability of typhoid fever by personal intercourse.

Dr. SEATON felt that too much attention was directed to water as a means of spreading typhoid fever to the neglect of local conditions. There seemed to be no generally accepted method of dealing with typhoid excreta, but the life-history of the bacillus outside the living body offered a wide field for research that the Jennerian Institute would do well to take up.

Dr. WHITELEGGE had found the acclimatisation of the inhabitants of the poorer quarters to render vain his denunciation of the practice of building on made soil or over the rock caves; but he had often noticed that the occupiers of the better houses in such localities were attacked after their return from the seaside.

Dr. Bulstrode said that no one who had lived in a fever hospital could doubt the fact of personal infection. As to shell-fish it should be borne in mind that cockles were always cooked and mussels, &c., were frequently so, oysters only being habitually eaten raw.

Dr. Willoughby pointed out that typhoid fever when water-borne appeared as an epidemic or explosive outbreak, the endemic and annual recurrent prevalence being dependent on local and permanent insanitary conditions. He believed that with typhoid fever, as with cholera, personal infection was mostly the result of "eating with unwashen hands" after attending to the patient, which would account for its being almost unknown in private practice save in the confined dwelling rooms of the poor, and might explain its far greater frequency among the nurses in the children's hospital than among those in the general hospital as noticed by Dr. Boobbyer.

Dr. Theodore Thomson thought that too much importance had been attached by Dr. Boobbyer to the kind of closet, for in some water-closet towns, as Liverpool and Birkenhead, the typhoid fever death-rate was 0·36 and 0·32 per 1000, while in the midden towns of Bradford, Oldham, and Halifax it was only 0·16, 0·17, and 0·13 though he did not doubt that the former would be still worse with middens and the latter better with water-closets. The experiments of Dr. Sidney Martin and others on the growth of the bacillus in polluted soil were very instructive and should be followed up by local investigation of soil conditions generally.

Mr. Shirley Murphy pointed out the fact that the young nurses in the hospitals of the Asylums Board were attacked in much greater numbers than the older women in the London Fever Hospital. In London the local prevalence of typhoid fever was in direct proportion to that of poverty as shown in Mr. C. Booth's maps. The high death-rate in Liverpool might be due to the social habits of the large Irish section of the population.

Dr. Boobbyer, replying, observed that the water-closet houses were not exclusively of a better class, for all new cottages, being built now at the rate of 700 yearly, were thus provided; nor were those with privies the worst, they being mostly old houses of a fair class on the outskirts, none now remaining in the city itself. Pails were dangerous in the dwellings of the poor but not where they were used with due care, 1000 such houses having never been attacked. The treatment of the typhoid excreta recommended in handbills was that they should be absorbed by sawdust, disinfected with one in 1000 sublimate, and then burnt. He assured Dr. Bulstrode that the mussels so largely consumed by the colliers on Sundays were very rarely cooked, yet these people suffered less than those in some other quarters.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Cases.—Pylorectomy.—Vaginal Section.

A MEETING of this society was held on Feb. 23rd, the President, Dr. Macfie Campbell, being in the chair.

Mr. Hugh E. Jones exhibited patients on whom the operation of Discission of the Crystalline Lens had been performed for High Myopia.

Mr. Frank T. Paul submitted a case of Cholecystectomy for Gall-stones and Cancer. The tumour was a small villous carcinoma of the fundus of the gall-bladder which was removed together with the upper half of the organ and 13 gall-stones. The patient recovered from the operation in a few weeks, but in two and a half months died from enlargement of the liver, which was apparently not due to recurrent cancer but to some inflammatory condition probably set up by stones in the hepatic ducts.—Mr. Rushton Parker remarked that few operations were more gratifying to the surgeon and patient than the removal of gall-stones; he took it that Mr. Paul in this case excised the gall-bladder because it was discovered in the search for gall-stones to be cancerous. It appeared to be removeable and he was not thereby advocating the general removal of similarly affected gall-bladders as hinted at by one speaker.—Dr. Imlach, Dr. E. T. Davies, and Dr. W. Alexander spoke.

Mr. Robert Jones showed a case of Myositis Ossificans exhibiting unusual characters. The patient was a youth, aged 16 years, who came to him because of difficulty in flexing his knee, caused by a hard mass apparently attached to the upper two-thirds of the thigh, which interfered with muscular action. Further growths were found on the inner aspect of the right jaw below the ramus, a small lump below the right olecranon, thickenings at the insertion of the right ligamentum patellæ, and at each first tarso-metatarsal joint. His back presented an extraordinary spectacle. Over the spinous processes a continuous line of hard material, cartilaginous or bony, extended from the level of the fifth dorsal to the fourth lumbar spine. This central ridge bifurcated at the lower end, the extremities of the bifurcated portions almost reaching to the iliac crests. From the central ridge two transverse strips projected at the upper end and two at the lower, almost symmetrical in appearance. The upper ones arose about the level of the seventh dorsal and were about two inches in length, the lower ones at the level of the second lumbar, the right being about three inches long and the left two inches. These prolongations were moveable and the fingers could be placed under their tips. The patient was unable to stand absolutely erect from the fact that extension of the spine resulted in the jamming of structures in contact with the lower end of the prominence. Four years ago the patient fell on a doorstep and hurt his back; a year later the growth started in the centre of the spine. The origin of the tumour of the jaw cannot be fixed. The thickening at the elbow started after a blow and the tumour of the thigh had lasted four months. Mr. Jones proposed to remove the growth on the back and any other deposits which might interfere with breathing.—Mr. Rushton Parker considered that the hard material on the back did not appear to be situated in muscular tissue so much as in fascia. The material in the left thigh might be of the nature of myositis ossificans, while the small spike under the right side of the lower jaw had distinctly the feel of being situated in the muscle. It would appear that some general state of the system accounted for this curious disease and it was stated that the boy's mother was very rheumatic at the present time. If removed partially or wholly an opportunity would be given to examine its histological appearances.

Dr. Alexander read notes of a case of Pylorectomy for Stenosis of the Pylorus in which Murphy's Button was employed and the patient quickly recovered.—Mr. Rushton Parker said that cases such as that threw great light upon the question of ulcerated stomach. The cicatrices mentioned by Dr. Alexander and found by himself in a recent case of pyloroplasty for stenosis together with the long-continued dyspeptic symptoms seemed to suggest the cicatrisation of ulcers as a cause. In his case a small ulcer actually existed at the time of operation on the stomach side of the narrowed pylorus. In neither of the two cases operated on by himself was the mucous membrane of the narrowed part itself the seat of recognisable scarring which existed only in the neighbourhood.—Mr. F. T. Paul thought that the specimen shown was a congenital stricture. He would not dispute the wisdom of selecting pylorectomy in this case, but he might say that pyloroplasty had a much wider range in its suitability for long and narrow strictures than some were disposed to admit.

Dr. Briggs read a paper on Vaginal Section, mainly based on 16 operations in his practice. In 13 posterior vaginal section and in three anterior vaginal section was the operation performed. The cases treated by posterior vaginal section included five of hæmatocele due to ectopic pregnancy, three of tubo-ovarian cyst (ovarian hydrocele), one of simple papilloma of both ovaries, one of hydrosalpinx, one of chronic infective salpingo-oöphoritis, and two of chronic infective metro-salpingo-oöphoritis (with hysterectomy), 13 in all. Anterior vaginal section included three of chronic salpingo-oöphoritis with retroversion, for each of which after the removal of the ovary and tube the uterus was steadied forwards by vaginal fixation. In hæmatoceles the vaginal drain was employed in chronic cases and the important question seemed to be—Was it necessary to empty or remove the Fallopian tube in cases of incomplete tubal absorption or tubal mole? The uncertainty of being able to recognise the tubal condition ought not to be disregarded until it had been shown that drainage alone was sufficient. In three cases a portion of the outer end of the tube was removed and in two cases the tube was neither felt nor seen. All the cases, with one exception where the patient was lost sight of, recovered equally well. Operators seemed to agree that the tubes and ovaries might be left behind. Available evidence pointed towards posterior vaginal section as the treatment of chronic hæmatocele distending the pouch of Douglas. Tubo-ovarian cysts, simple papillomatous growths, and salpingo-oöphoritic lesions, if accessible from below, could be removed from the pouch of Douglas by posterior vaginal section. It was evident that where there were matting, thickening and firm fixation, especially towards the lateral walls of the pelvis, there was difficulty in securing the pedicle. More room was obtained by removing the uterus which in infective inflammations was often, as Landau had urged, in an incurable state. Dr. Briggs removed the uterus in two of the cases quoted because of the conditions alluded to. One patient lost her life from hæmorrhage 30 hours after operation; the hæmorrhage had been concealed behind the cyanide gauze pack. This case was a posterior vaginal section for adherent hydrosalpinx with thickened broad ligaments and an enlarged stiffened uterus. The specimen was carefully examined post mortem; the stump was apparently securely held by the silk ligatures still *in situ;* the end of the stump was swollen and its margins were recurved; the uterine artery was tested by injection and water oozed through the vessels of the stump, but a thicker pigmented starchy solution would barely pass. Shrinkage of the stump and difficulty in securing the proper constriction of thick rigid tissues rendered tense by forcible traction during operation explained the incomplete hæmostasis. The results in the cases of removal of the appendages with vaginal fixation for retroversion effected by anterior vaginal section were too recent to report upon. In the 16 cases there had been one death from hæmorrhage as reported.—Mr. BURTON had not himself opened Douglas's pouch for hæmatoceles, as all his cases during one year got better very well without, and he agreed with Dr. Briggs that they generally did if left alone; at the same time he was of opinion that by operation the patient's stay in hospital would often be shortened. He had opened the peritoneum per vaginam six times during the year for inflammatory tubal affections, removal of enlarged ovaries, and once for removal of a dermoid containing about 12 ounces of fat. There was less shock than by the abdominal route. By this operation a scar was avoided as was the danger of ventral hernia in the cicatrix.—Dr. E. T. DAVIES thought that vaginal section was only practicable in a minority of cases of pelvic disease—viz., small tumour formations and inflammatory products which encroached upon or were adherent to the pelvic floor, early ectopic pregnancies with recurrent or dripping hæmorrhages, or suppurations which became encapsuled in Douglas's pouch. These if they do not recover spontaneously by absorption, as many do, may be safely and easily opened and drained through the posterior fornix. The fulminating ectopic ruptures with copious hæmorrhage into the general peritoneal cavity with intense collapse should always be attacked from above by laparotomy. Pus tubes and ovarian abscesses with dense adhesions to the pelvic floor might more safely be opened from below. There could be no doubt, however, that the abdominal route by laparotomy offered far greater facilities for precision in diagnosis, dealing effectively with adhesions and stanching hæmorrhage, the whole field being so much better under the control of the operator than is possible by the vaginal route.—Dr. GEMMELL referred to the absence of shock after vaginal section due probably to the absence of physical irritation of the peritoneum from the cooling and handling of the intestines which was inevitable in abdominal section. He did not agree with the view that by the abdominal route a better inspection of the field of operation could be obtained, for by means of the anterior vaginal incision the uterus and appendages could be turned out for inspection and replaced with little or no irritation to the patient. Whilst convalescence was rapid there was greater freedom from pain and the vaginal incision cicatrised early, yet, just as in abdominal section, the wound did not always heal by first intention and hernia might occur.—Dr. GRIMSDALE considered that owing to the want of accurate diagnosis in pelvic disease the vaginal operation should be limited to the most simple cases. Slight errors in accurate diagnosis were more likely to assume grave proportions during vaginal operation than during abdominal operation. He did not suppose that anyone would contend that the actual opening of the peritoneum was safer in one place than in another. The case of the operation would therefore be in the long run the measure of the safety of any method.—Dr. BRIGGS replied.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Malignant Disease of the Œsophagus.—Exhibition of Specimens and Lantern Demonstration.

A PATHOLOGICAL meeting of this society was held on Feb. 17th, Mr. C. J. WRIGHT, Vice-President, being in the chair.

Dr. POWELL WHITE read a short communication on Malignant Disease of the Œsophagus and showed the following specimens:—1. Sarcoma of the Pharynx. The primary growth was a small ulcer in the right sinus pyriformis; it did not invade surrounding structures. The glands in the neck formed a mass half as large as the man's head. There were metastatic deposits in the liver, lungs, and heart. 2. Lymphosarcoma of the Mediastinum invading the Heart and the Œsophagus. 3. Cystic Kidneys in an Adult. The left kidney weighed 4 lb. 14 oz. and the right 2½ lb.; he thought that their origin was a congenital malformation. 4. Multiple Diverticula of the Small Intestine from the same patient as the cystic kidneys. There were about 30 diverticula situated along the mesenteric border of the small intestine; they were formed by protrusion of the mucous membrane through a deficiency in the muscular coat. 5. Spheroidal-celled Carcinoma of the Upper End of the Œsophagus with Metastatic Deposit in the Stomach.

Dr. BEDFORD PIERCE (York) showed:—1. Intracapsular Fracture of the Femur in a male, aged 64 years, the line of fracture being immediately below the articular surface of the head of the bone. In this case there was *no shortening until* some weeks after the injury. 2. Repair of Fracture of the Radius under most unfavourable circumstances, the patient being 84 years of age and maniacal, and no treatment was possible. Nevertheless, the bone had united well. 3. A Diverticulum of the Bladder the cause of which was obscure. The diverticulum was about half the size of the bladder and connected with it by an opening that would just admit a goose quill. 4. Brain of a Microcephalic Idiot of low type. Dr. Pierce pointed out that the posterior lobes were small relatively to the rest of the brain and that they failed to cover the cerebellum. He remarked that the brain when first removed weighed 38 oz. and that after being hardened in formalin for six weeks it had gained 10 oz. in weight.

Mr. GOUGH communicated a short paper in which were detailed the Microscopical Changes in the Lymphatic Glands, Spleen, Liver, and Lungs from a case of Hodgkin's disease. The paper was illustrated by microscopical preparations.

Dr. WEST SYMES (Halifax) showed a Dermoid Cyst of the Ovary containing fully-formed teeth, hair, skin, and bone from a patient, aged 39 years. At the operation the cyst was found to be very adherent to surrounding structures. The adherent vermiform appendix was removed with the tumour. The patient was discharged after an uninterrupted recovery.

Dr. CHURTON showed:—(1) A Thoracic Aneurysm which had pointed in the axilla; and (2) the Parts involved in a Subphrenic Abscess.

Dr. R. H. HALL showed a Perforated Gastric Ulcer from a young man, aged 22 years. The symptoms were indefinite and death rapidly took place.

Dr. EURICH (Bradford) showed:—(1) A Large Ulcer of the Stomach, death having been due to hæmorrhage; (2) a Primary Sarcoma of the Sternum; and (3) a Glioma of the Brain from a boy, aged five years.

Dr. HELLIER showed a specimen of Hæmorrhage into the Ovaries and a Skiagram of Congenital Deformity.

Dr. EDGERLEY (Menston) showed a specimen of Porencephaly in which the area involved extended from considerably in front of the position of the anterior limb of the Sylvian fissure, on the left side to the posterior parietal lobule and from the upper part of the second frontal convolution above to the inferior temporal sulcus. In this area the brain cortex was entirely absent and the white matter was represented only by a thin membrane separating the cystic space from the lateral ventricle on the inner side. The outer wall was formed by the pia arachnoid membrane. The optic thalamus was atrophied and the opposite half of the cerebellum was much reduced in size. The pyramidal tract on the same side was diminished in the crus, pons, and medulla. The patient from whom the brain was taken had died at the age of 43 years and had been a congenital hemiplegic imbecile who had suffered from epileptic fits for 15 years before her death. The area involved corresponded to the distribution of the middle cerebral artery—a fact supporting the theory of vascular occlusion as a probable cause.

Mr. LITTLEWOOD showed among other specimens:—(1) Tuberculosis of the Flexor Sublimis Tendon secondary to Disease of the Synovial Sheath; (2) a Pedunculated Subsynovial Lipoma removed from the knee-joint; and (3) Cysts of the Left Ovary and Half of the Right Ovary also containing Cysts removed from the same patient.

Dr. WARDROP GRIFFITH showed two specimens of Pneumonic Lung, one of which was associated with infective endocarditis; also specimens of Malformation of the Tricuspid Valve and of Abnormal Chorda Tendinea in the Left Ventricle.

Mr. MOYNIHAN showed among other specimens:—(1) Three Examples of Acute Perforating Appendicitis; (2) Intussusception in a dog; (3) Photographs and Watercolour Drawings from cases of Retro-peritoneal Hernia; and (4) (with Dr. GRIFFITH) Right and Left Duodenal Herniæ.

Mr. MOYNIHAN and Dr. POWELL WHITE showed a Tumour removed by operation from the Retro-peritoneal Tissues occupying the positions of the suprarenal body and kidney which were entirely absent; the mass also extended into the scrotum. Microscopically it consisted of myxomatous tissue containing fat and the remains of glandular epithelium.

Mr. WARD and Dr. POWELL WHITE showed a Retroperitoneal Tumour removed by operation. Microscopically it was a lympho-sarcoma.

Mr. WALTER THOMPSON showed an Epithelioma of the Upper Jaw arising from the nasal surface.

Dr. ALLAN showed among other specimens:—(1) The Intestines from a case of Typhoid Fever in a woman, aged 70 years; (2) Ulcerative Colitis apparently due to Influenza; and (3) a Collar-like Stricture in the Lower Part of the Œsophagus.

Dr. BRONNER (Bradford) showed numerous microscopic specimens demonstrating the Various Growths of the Nares—sarcoma, cylindroma, papilloma, myoma, adenoma, carcinoma, tuberculous growths, &c.; also specimens illustrating the degenerative and hypertrophic changes which take place in the mucous membrane of the nares.

Dr. TREVELYAN showed:—(1) Diphtheria Bacilli from a case of Membranous Stomatitis without involvement of the Fauces; and (2) True Hypertrophy of One Lung from a Case of Long-standing Quiescent Disease of the other Lung.

Dr. TREVELYAN and Mr. SECKER WALKER showed Sections through the Cerebrum and Cerebellum from a case of Suspected Intracranial Abscess. There was no abscess found, although during life the symptoms were so marked as to necessitate an exploratory operation. The specimen showed considerable hæmorrhage along the tracks of the exploring trocar. No gross lesion such as would account for death was found in the body. More than 40 microscopic preparations were shown illustrating the naked-eye specimens.

Professor BIRCH gave a lantern demonstration on the Commoner Blood Spectra produced by Drugs and Poisons.

New specimens recently added to the Anatomical and Pathological Museums were shown by Dr. GRIFFITH and Dr. TREVELYAN respectively.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Dislocations and Fractures of the Astragalus.—Excision of the Cæcum.

A MEETING of this section was held on Jan. 20th, Mr. R. L. SWAN, the President, being in the chair.

Mr. H. GRAY CROLY read a paper on Dislocations and Fractures of the Astragalus, giving a history of several cases. In one case fracture of the body of the astragalus was caused by a horse falling on a man's foot which was caught in the stirrup. Mr. Croly excised the bone and the man was enabled to resume his work as a groom. In a case of compound luxation of the astragalus forwards and outwards the bone was completely displaced from all its attachments; the head and neck of the bone protruded. Mr. Croly excised the astragalus. The accident was caused by the man jumping from a vehicle and alighting on his heel; the foot was forcibly inverted; the internal malleolus was completely buried; the patient made an excellent recovery and can walk as well as ever. The third case was one of complete simple luxation of the astragalus forwards and outwards. The patient, a man in his sixty-ninth year, slipped off the kerbstone into the channel, violently twisting his foot inwards. On examination by Mr. Croly 11 days afterwards the right foot was found to be forcibly inverted, the head and body of the astragalus resting on the dorsum of the foot externally; the skin over the head of the astragalus was red and shining; the internal malleolus was completely buried, a deep groove taking its place; there were two sloughs on the outer side of the foot (ashy grey) and a large deep slough on the inner side of the foot; there was no movement at the ankle; the patient's health was much impaired. About two months after the injury Mr. Croly excised the astragalus. Immediately on the enucleation of the bone the muscles drew the foot into its normal position and a suitable splint, with footboard, was applied. The patient made an excellent but somewhat slow recovery and he now can walk without the aid of a stick; an extra sole on his boot makes up for the slight shortening; he has an ankle moveable but perfectly firm.—Mr. LENTAIGNE exhibited a cast of Fracture of the Astragalus. This particular injury was exceedingly rare. It was a fracture of the anterior portion of the astragalus, with displacement forwards and outwards of the fractured head of the bone, and was caused by jumping off a car. After an interval operation was allowed. The loose head of the astragalus was found to be completely detached from all structures except by a few threads of fibrous tissue. The head of the astragalus was reduced and the wound was closed.—Mr. W. I. WHEELER mentioned a case of Dislocation of the Astragalus backwards the result of a blow by a cricket ball on the front of the foot when in the flexed position. He said that Mr. Henry Hancock's statistics of 109 cases of complete removal of the astragalus for compound dislocation, simple dislocation, and disease showed 14·6 per cent. death-rate.—The PRESIDENT said that he had often had occasion to remove the astragalus for aggravated equino-varus in the adult.

Mr. JOHN LENTAIGNE exhibited a patient from whom he had removed the Cæcum and a Small Portion of the Ileum for Chronic Intestinal Obstruction resulting from Stricture at the Junction of the Ileum and Cæcum. The patient, a girl, aged 12 years, had come under his care on April 16th, 1898. She was then in a very miserable condition, vomiting frequently and rejecting almost all food; the abdomen was greatly distended. The bowels were very constipated, no motion ever coming except after the administration of purgatives followed by enemata. The illness had commenced two years before. On April 22nd Mr. Lentaigne opened the abdomen in the median line and gave temporary relief by forming an intestinal fistula in two stages after first emptying the distended ileum by enterotomy. On incising the gut two large basinfuls of pea-soup-like fæces flowed out and the intestinal cavity was irrigated and washed out with a stream of warm water; the opening was then closed by silk sutures and the gut was returned to the abdominal cavity. When emptied and flattened out the intestine seemed to be about four inches across from the lower margin to the mesentery. The left hand of the operator was introduced into the cavity and directed well over to the left side; it was then cut down upon and the bowel was securely fastened to the opening by a few sutures passing through the parietal peritoneum, muscle and skin. The incision in the median line was closed with three layers of sutures, the two deeper of silk for peritoneum and muscle and the superficial of catgut for the skin, covered by a layer of celloidin. The small opening on the left side of the abdomen was kept open by a plug of iodoform gauze and on the third day after operation the fistula was made complete by an incision into the bowel. There was an immediate improvement in the patient's condition. The bowels emptied themselves continuously through the fistula and the vomiting and attacks of pain ceased almost at once. On June 27th, as the patient had got into a good condition and was anxious to be relieved of the annoyance of the fistulous opening, excision of the cæcum was performed with end-to-end suture of intestine by Kocher's method. The bowels acted naturally four times on June 29th and almost every day after. The intestinal fistula closed of itself as soon as the bowels acted normally and on July 12th it had practically closed, neither fæces nor flatus coming through it. It was now represented by a firm, clean scar, no trace of the opening existing. The patient was in excellent health and condition, the bowels acting regularly every day.—Mr. CROLY congratulated Mr. Lentaigne on the success of the operation which he said would not have been undertaken a few years ago.

NORWICH MEDICO-CHIRURGICAL SOCIETY.—Meetings of this society were held at the Norfolk and Norwich Hospital on Feb. 7th and 21st, the President, Mr. W. E. Wyllys, being in the chair.—A discussion took place on the Aims and Objects of the National Association for the Prevention of Consumption and other Forms of Tuberculosis.—Sir Peter Eade opened the discussion, speaking first on the necessity of educating the public and referring to the increased knowledge of tuberculosis. He mentioned some striking facts which would appeal to the public—e.g., that one-tenth of the population died from it and that phthisis kills in England alone from 40,000 to 60,000 annually. The Norwich mortality for 1897 was 2062, of which 238 were due to tuberculosis. Prevention included attention to expectoration, provision for healthy cows, and pure meat; but as many other sources of the disease might exist they must not be too sanguine as to at once stamping it out. Referring to the inspection of slaughter-houses Sir Peter Eade thought that more good would be derived from Government inspectors than from medical men.—Dr. S. J. Barton observed that the strongest argument against notification was that it would intimidate the earliest incipient cases from applying to their medical advisers at a time when there was the best chance of cure by the fear of being publicly branded as "consumptives." The two conclusions from all that had been written and spoken lately on the subject of tuberculosis were—(1) that the disease was infectious and spread by avoidable causes—viz., atomised sputum and milk, &c.; and (2) that when infected the open-air treatment gave the best chance of cure.—Dr. Burton-Fanning observed that there were already 20 branches of the association in process of formation and he sincerely hoped that the outcome of that meeting would be the starting of one in Norwich. He described the objects of the association as twofold: the education of the public as to the common channels of infection and the erection of sanatoria for those already attacked. The public must be enlightened as to the danger of consuming milk from tuberculous cows and should demand from dairymen a guarantee that the tuberculin test was used and acted on by them. They must also be warned of the infectivity of discharges from patients with tuberculosis and of the simple means of obviating that. He added that at more than one place the establishment of a sanatorium had been followed by a diminution in the number of consumptive natives. Owing to the precautions taken the risk of infection at a special institution for phthisis was reduced to a minimum.—Dr. Cooper Pattin, medical officer of health of Norwich, was of opinion that it was absurd to start upon a campaign against tuberculosis without informing themselves of the number and disposition of the sufferers from the disease, and this knowledge they could best acquire by notification. He therefore placed in the first rank notification of all tuberculous diseases with, as a necessary corollary, the establishment of hospitals for the segregation of the dangerous cases, in particular persons who could not have even a room set apart for their use in their own homes. Next he placed regular inspection of dairy cattle and the tuberculin test, though he warned members that in his judgment many exaggerated statements had been made about ridding the world of intestinal tuberculosis in children; they would lower that amount, he hoped, but they would not eradicate the disease. Milk in his opinion was often contaminated in the dwelling. So important did he think infection in the dwelling that for five years he had carried out systematic disinfection after the death or removal of a tuberculous patient wherever he could gain consent to do so. Dr. W. M. Crowfoot advised affiliation with the central association so as to obtain good speakers for a public meeting. He hoped that changes would be brought about in the management of dairies, but he feared that little help was to be obtained so far from the Government. There ought to be fully-equipped sanatoria for the poor.—Mr. S. H. Long observed that they did not all regard the infection in the same light. Being due to the tubercle bacillus, a facultative saprophyte, it was both of a direct and indirect nature; the former, he thought, played a minor part in the spread of the disease, whereas the latter mode of infection could never be entirely got rid of and hence the disease could never be stamped out.—Dr. Beverley thought that the milk ought to be thoroughly investigated.—The President thought the meeting must decide on some practical resolutions.—Dr. Burton-Fanning then moved: "That the members of the Norwich Medico-Chirurgical Society are in favour of the establishment of a branch of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis for Norwich and District."—This was carried unanimously.—Mr. Haynes Robinson moved the next resolution: "That a committee be formed to carry out suggestions and to call a public meeting and that the following be nominated as members of the committee:—for the city: Dr. Barton, Dr. M. Beverley, Dr. Burton-Fanning, Dr. J. Fielding, Dr. Cooper Pattin, and Mr. Haynes Robinson; for the county: the President, Dr. Crowfoot, Mr. H. C. Dent, Dr. Reeve Manby, Dr. C. A. Owens, and Mr. H. Bournes Walker, with power to add to their number."—This was carried unanimously.

BRITISH ORTHOPÆDIC SOCIETY.—A meeting of this society was held at the City Orthopædic Hospital, Hatton-garden, on Feb. 17th.—Mr. Jackson Clarke showed a case of severe Talipes Calcaneo-valgus of congenital origin. He pointed out that there was no defect of the fibula. The child after birth showed a tendency to fold the legs on the front of the abdomen with the feet together. He suggested that this had been the position in utero and was the cause of the deformity. The patellæ were dislocated outwards. In this and other respects the child had much improved under treatment by manipulations and splints.—Mr. Muirhead Little showed two cases of Supposed Injury to the Shoulder at Birth. In both there was a history of difficult labour, one being instrumental and in the other there was difficulty in delivering the shoulders. In both there was marked inward rotation of the arm at or just below the shoulders and the movements of that joint were very limited, in one case so much so that paralysis was suspected, but electrical examination showed that it was not present. The head of the humerus felt unduly prominent behind and there was a distinct depression in the region of the neck as though the diaphysis were displaced forwards and inwards. He had diagnosed separation of the epiphysis with rotation of the lower fragment. Massage and manipulations had effected some improvement. He had skiagraphed the parts but at this early age (three and five years) ossification was not advanced enough for much to be shown.—Mr. Jackson Clarke thought the cases were subacromial dislocations.—Mr. John Poland said that he had seen the case referred to by Mr. Jackson Clarke. He thought Mr. Little's cases were cases of injury to the upper end of the humerus. He believed that in such cases occurring in labour there might be an altered condition of the bone due to syphilis.—Mr. William Thomas thought the finger in the axilla in delivering was responsible for such cases.—Mr. Keetley thought that paralysis could not be excluded in one of the cases at least.—Mr. Poland then showed specimens of Fractured Neck of the Femur with vicious union in a youth, aged 21 years, with symptoms like coxa vara. He had excised the head of the femur and the redundant callus that prevented movement.—Mr. Poland also showed a specimen obtained by Excision of Dislocation of the Shoulder with Separation of the Great Tuberosity. There was no broadening of the shoulder such as was described in text-books. The patient had now a useful arm.—Mr. Poland also showed the cast of a case of Hallux Varus coming on at the age of 12 years in a congenital club-foot. There was some wasting as if from paralysis. He was inclined to excise the joint but it had proved unnecessary. He also showed a case of Hallux Valgus from no apparent cause. He had excised the joint.—Mr. William Thomas showed a Wrench for the Treatment of Talipes. He did not think that wrenching alone would cure talipes, but whatever could be done by wrenching this instrument would enable them to do.—Mr. Chisholm Williams showed casts of cases of Webbed Fingers from Burns and of Great Progressive Hypertrophy of the First and Second Toes in a girl, aged four years, first noticed three weeks after birth.—Mr. Noble Smith thought that it was a case of diffuse lipoma.—Mr. Jackson Clarke thought that diffuse osteoma could not be excluded.—Mr. Poland agreed that it was probably diffuse lipoma but suspected that the bones were enlarged.—Mr. Muirhead Little recalled a somewhat similar case shown by Dr. Robert Jones in which all the tissues were hypertrophied.—Mr. Chisholm

Williams also showed the cast of a Hand with Webbed Fingers from a Burn which he had successfully treated.—Mr. Keetley showed a Patient and a Skiagraph. The case, he thought, was one of coxa vara. The patient was 19 years old, and had had very severe knock-knees straightened by another surgeon by means of instruments. She had only then been able to hobble by lifting the upper part of each instrument with her hands. She now wore no instruments and could not walk at all. He remarked on the peculiar open face of the patient which he thought he had noticed in another case of coxa vara.—The proceedings closed with a vote of thanks to the committee of the hospital.

SOCIETY OF ANÆSTHETISTS.—A meeting of this society was held on Feb. 17th, the President, Dr. Dudley Buxton, being in the chair.—Mr. McCardie read a paper upon the Method of Prolonging Anæsthesia under Nitrous Oxide Gas by the use of a Mouth Tube. Since seeing Mr. Coxon's plan of injecting warmed nitrous oxide into the back of the mouth by means of an oral injector he had experimented and found the following plan to answer well. The patient is anæsthetised in the usual way. The nose is then clamped and a central gag being used a curved mouth tube is introduced just within the mouth and a supply of gas is injected with each inspiration. The buccal cavity thus becomes a sort of reservoir of gas and an anæsthesia of several minutes' duration can be obtained.—The President remarked that the quantity of gas required was an obvious disadvantage. The clamping of the nostrils by lessening the patient's powers of expiration would tend to prolong anæsthesia under any circumstances.—Mr. E. Willett felt that the use of oxygen with nitrous oxide was superior to any method of giving that gas.—Mr. C. C. Braine pointed out that no method of giving gas and oxygen afforded a "working anæsthesia" of several minutes which was obtained by the use of the mouth-tube.—Dr. Flux described his method of obtaining anæsthesia by nitrous oxide by the "open method." He had found that by dropping the nitrous oxide from the tube into a towel arranged about the sides of the face and around the chin but leaving the face above the level of the nose quite free he obtained a sleep-like anæsthesia and avoided all the discomfort and dread of "taking gas." He now employed cup-shaped celluloid face-pieces open above and obtained excellent results. The period of induction was no longer than ordinary and when anæsthesia was obtained he could prolong it by occasionally injecting gas into the mouth. It was necessary to prevent the gas escaping below. The induction and recovery were like going to sleep and awakening from it.—Mr. Bellamy Gardner referred to experiments with closed inhalers which showed that high percentages of air prevented anæsthesia.—Mr. H. Baldwin and Mr. C. C. Braine spoke of their experience of Dr. Flux's method and both expressed their gratification at the results which they had witnessed.—After remarks from Mr. Willett, Mr. Tyrrell, and Mr. Low, Dr. Flux in replying said that the test of anæsthesia was the absence of sensation, the observation of lid and conjunctival reflex and the general sleep-like appearance of the patient.—Mr. Burns narrated four cases illustrating the value of the mixture of oxygen with nitrous oxide for patients, who were bad subjects for ether or chloroform during surgical operations. In the first case the patient whose finger was amputated was a man, aged 53 years, very fat, an alcoholic, and suffering from aortic disease with albuminuria and glycosuria, and from a cough. He took the anæsthetic well. In the next two cases the patients suffered from empyema and in the fourth the patient, a young man who was to have a Thiersch skin-grafting performed, took the anæsthetic well at first but became slightly cyanosed with cessation of respiration later and required artificial respiration. This case illustrated the advantage of being able to throw in plenty of oxygen as by Hewitt's more recent apparatus. His older pattern was used, but it afforded too little oxygen, and hence the asphyxia complication related.—Mr. Harvey Hilliard narrated a case in which a youth who although subject to being faint had never fainted, passed into syncope while taking nitrous oxide and oxygen. The syncope occurred at the moment of incision into a furunculus in the auditory meatus, and was, Mr. Hilliard believed, caused reflexly by irritation of a branch of the vagus. He also read notes of a case of a Fit of Spasmodic Asthma following the inhalation of nitrous oxide gas and air in an asthmatic subject.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held on Feb. 8th at the Medical Institute, Birmingham, the President, Dr. W. G. Lowe, being in the chair.—Mr. Jordan Lloyd showed the Pelvic Genitalia which had been removed post mortem from a woman, 36 years of age, who had died from acute general pulmonary tubercle. She had never menstruated but had always had fair health, although somewhat delicate in childhood. The cervix uteri was normal in structure and one inch and a quarter long. The body of the uterus was small, about one inch and a half long. Its cavity was obliterated and contained old cretaceous tuberculous deposit. Each Fallopian tube was blocked by a cretaceous nodule of the size of a pea within an inch of the fundus uteri. Up to the points of blockage the tubes were of normal thickness, but beyond this they were atrophied to about two millimetres in diameter. The fimbriæ of the right tube were open and those of the left were closed by old peritoneal adhesions. The ovaries were normal in size and structure and contained Graafian vesicles. Many of the mesenteric glands were full of ancient tubercle which had evidently been laid down many years before. The vagina was normal. The absence of menstruation was clearly due to the obliteration of the uterine cavity and the plugging of the Fallopian tubes as above described. There was no other tubercle in the abdominal or pelvic cavities.—Mr. Jordan Lloyd also showed a Left Kidney removed successfully by lumbar nephrectomy from a woman, aged 20 years, who had suffered since childhood from periodical attacks of lumbar pain with diminished urine and the appearance of a tumour in the lumbar region, the symptoms disappearing with polyuria and the disappearance of the tumour. It was intended to transplant the ureter by a new attachment to the renal pelvis, but at the time of the operation there were practical difficulties in the way of carrying out this procedure satisfactorily. The kidney was therefore removed. The stalk of the kidney was first clamped by Doyen's forceps and the vessels and ureters were tied separately. The forceps were then removed. The patient made an easy recovery.—Mr. Christopher Martin showed an improved form of Steriliser. It consisted of two chambers, the lower chamber being used for boiling instruments in soda solution, whilst the upper chamber was for steaming dressings, towels, gauze swabs, &c. The lower chamber was large enough to hold an ordinary pair of midwifery forceps. The steam was conducted from the lower to the upper chamber by a pipe which delivered it near the top of the latter. Near the floor of the upper chamber three small holes were made to permit the escape of steam. By this arrangement the current of steam in the upper chamber took place from above downwards. He had also had a strong brown canvas case made into which the upper chamber could be packed; it then formed a convenient and perfectly aseptic method of carrying instruments, dressings, swabs, &c., from the surgeon's house to the patient's.—Mr. Martin also showed an Acetylene Lamp for Surgical Operations. It was essentially an acetylene bicycle lamp to which a convenient handle had been applied and to which he had had fitted a reflector which could give either a horizontal or a vertical beam of light. The whole packed into a neat leather case. It gave a brilliant light, was inexpensive (compared with electrical lamps), and was very portable. Its only drawback was the somewhat objectionable smell which all acetylene lamps gave off. Both the steriliser and the acetylene lamp had been made for him by Mr. Ash, Edmund-street, Birmingham.—Mr. J. Furneaux Jordan read a paper on the Advantages and Disadvantages of Vaginal Cœliotomy.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at the Medical Institution, Liverpool, on Feb. 17th, Dr. Donald, the President, being in the chair.—Dr. S. Buckley read the notes of two cases of Fibroids Complicating Pregnancy in which abdominal section was performed. Case 1 was that of a patient, aged 28 years, pregnant three and a half months. The fundus uteri was pushed to the left by a firm rounded swelling reaching up to the umbilicus and was very tender to the touch. On opening the abdomen the mass was found to be a soft fibro-myoma springing from the right side of the uterus. It was not pedunculated and could only be removed by abdominal hysterectomy. As the symptoms were not urgent the abdomen was closed. The patient made a good recovery and five months later was delivered naturally of a full-term child. Case 2 was that of a patient, aged 28 years, five and a half months pregnant. A tumour of the size of a large cocoanut was found to be attached to the left side of the fundus. It was freely moveable, very hard, and had caused severe pain, the result of localised peritonitis. When the abdomen was opened a pedunculated myoma was found attached to the left cornu of the uterus and adherent to the omentum. The pedicle was transfixed and ligatured in the ordinary way and the tumour removed. The patient made an uneventful recovery and is now almost at full term.—Dr. Arnold Lea read the notes of a case of Sarcoma of the Ovary occurring in a girl aged 13 years. The tumour which had attained the size of a seventh month pregnancy had been noticed for four months and had grown rapidly. The tumour lay somewhat to the left side, was very soft and was moveable. Per rectum the uterus was felt to be small and separate from the tumour and a pedicle could be made out on the left side. There was no ascites. The patient had menstruated normally twice. Abdominal section was performed. The tumour was adherent to the great omentum which was removed along with it. The right ovary was normal and was not taken away. The patient made a good recovery from the operation. The tumour was a soft sarcoma, very vascular, and showing numerous hæmorrhages. Microscopic sections showed it to be of the round-celled variety. The prognosis of sarcoma of the ovary in young girls was very bad. Of 26 cases recorded as operated upon seven died as the result of the operation —i.e., 27 per cent. Recurrence within a short time was very frequent, most cases dying from secondary growth within a year of the operation.—Dr. W. K. Walls read a communication on the Treatment of Severe Accidental Hæmorrhage, generally concealed, based upon a personal experience of 38 cases and he discussed the treatment of their condition. He maintained that rupture of the membranes as generally advised was injudicious owing to the inertia of the uterus generally present in these cases. He upheld the value of the plug and dilator combined, as in de Ribes's bag. He suggested that after delivery of the child if the uterus remained inert and did not respond to ordinary stimuli vaginal hysterectomy might be justifiable, stating that many of the fatal cases of concealed accidental hæmorrhage were brought about by the intractable post-partum hæmorrhage so commonly experienced.—The discussion on this paper was adjourned till the next meeting.—Various specimens of uteri were shown by Dr. Walter, Dr. Briggs, Dr. Gemmell, and Dr. Grimsdale.

CHELSEA CLINICAL SOCIETY.—A meeting of this society was held on Feb. 21st, Mr. J. Foster Palmer, President, being in the chair.—Dr. Herschell read a paper on Atony and Dilatation of the Stomach. He pointed out that atony was an unrecognised cause of many functional gastric troubles and that it was far more important to know the muscular state of the stomach than to make exact analyses of its contents. He divided atony of the stomach into three degrees: (1) the stomach took longer than normal to empty itself, but there was no absolute retention of food débris; (2) there was occasional food retention; and (3) there was constant food retention. The last two groups caused dilatation. As to its causation he noted—abnormal relationship between food and the stomach, intrinsic weakness of the stomach walls, and anatomical conformation of the stomach. The symptoms of atony of the stomach he considered were due to (*a*) local conditions, (*b*) reflex, (*c*) malnutrition, (*d*) defective absorption of water, and (*e*) absorption of toxins. Dr. Herschell then discussed the methods of physical examination and illustrated the splashing sound and auscultatory percussion upon a phantom consisting of inflated rubber bags. He thought that the only certain sign of dilatation of the stomach was the finding of food residues before breakfast. He laid stress upon the necessity for a prolonged and serious course of treatment and exhibited Turck's gyromele and his own apparatus for applying medicated hot air and the alternating needle bath to the interior of the stomach. Dr. Herschell also discussed electricity (showing an intra-gastric electrode), massage, diet, and drugs.—The President, Dr. William Ewart, Mr. Vinrace, and Mr. Nitch-Smith took part in the discussion which followed and Dr. Herschell replied.—Mr. A. F. Penny read a paper on the Radical Cure of Hydrocele, the discussion of which was postponed until the next meeting.—Dr. William Ewart showed a case of Chronic Rheumatism characterised by intense pain and immobility treated successfully by ice massage.—Mr. Vinrace showed a pathological specimen of Perforation of the Stomach due to Gastric Ulcer.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—An ordinary meeting of this society was held at 20, Hanover-square, W., on Feb. 23rd, the President, Dr. Radcliffe Crocker, being in the chair.—The following cases were shown and discussed:—The President: (1) Acne Varioliformis in a man; and (2) Elephantiasis Græcorum in a woman—leprosy in its earliest stages in a healthy-looking young patient.—Dr. P. S. Abraham: Father and child with Tinea Tonsurans. Each had a small patch on the back of the scalp. A specimen of the fungus (probably large-spored) was shown under the microscope.—Dr. A. Eddowes: A man with Folliculitis Necrotica.—Mr. W. T. Freeman (for Dr. Stowers): A case of Lichen Spinulosus in a woman.—Mr. W. T. Freeman: (1) A case of Leuco-melanoderma in a woman; (2) a case of Senile Seborrhœic Warts in a woman; and (3) a doubtful case of Rodent Ulcer upon the forehead of a woman.—The President, Dr. Bowles, Dr. Abraham, Mr. Hope Grant, Dr. Eddowes, and others joined in the discussions.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—The ninth meeting of the session was held on Feb. 17th, when Dr. T. K. Dalziel showed a successful case of Laparotomy for Perforated Enteric Ulcer, the first of its kind in Glasgow.—Mr. R. H. Parry showed a case of Impacted Extra-capsular Fracture of the Femur treated by incision over the trochanter and replacement of the fragments in proper position. The patient was going about in seven weeks and there was no shortening left.—Dr. J. G. Connal showed a very large Nasal Polypus with Cystic Degeneration which had existed for at least 18 months without causing inconvenience.—Dr. Glen showed a specimen of a Heart with a Single Ventricle from a child who lived to the age of five months.—Dr. R. M. Buchanan showed a drawing of a Heart with a Single Ventricle and a Single Auricle.

Reviews and Notices of Books.

General Physiology, an Outline of the Science of Life. By MAX VERWORN, M.D., Ph.D., Extraordinary Professor of Physiology in the Medical Faculty of the University of Jena. Translated from the Second German Edition and edited by FREDERICK S. LEE, Ph.D., Adjunct Professor of Physiology in Columbia University. With 285 Illustrations. London: Macmillan and Co., Limited. 1899. Pp. 615. Price 15*s.*

THIS work is one of those that will bear reading twice and reading carefully. The reader must not expect to find any details in regard to the functions of the body—no text-book description, for example, of the organs of digestion or circulation or of the structure or functions of the organs of sense. It is strictly confined to the consideration of those broad and general principles and facts which are common to all animals alike and the subject is treated in an original and very interesting manner. We may add that the translation reflects great credit upon Dr. Lee, being smooth and intelligible throughout.

It is well that from time to time a general review of such a subject as physiology should be made by a competent man—that we should, as it were, take stock of our possessions and determine what rests on solid fact and what is still debateable ground. Physiology has connexions with many sciences and its advances stand in close relation with the progress made in many very different fields of research. Its development consequently proceeds irregularly; at one time it receives an impulse in a special direction owing to the extension of chemical knowledge; at another, new fields of research are opened out by the improvement in physical appliances, as in the superior construction of the microscope and in the graphic method of registration; whilst in yet another the application of the electric means of research supplies the means by which physiological knowledge becomes increasingly exact and precise. Experimental investigation, embryology, and comparative anatomy have all contributed to raise physiology to the high position it

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REPORT OF
The Lancet Special Commission
ON THE
WATER SUPPLY & DISPOSAL OF SEWAGE
IN
RURAL DISTRICTS

Being an Inquiry Supplementary to a Recent Commission on the Relative Efficiency and Cost of Plumbers' Work.

INTRODUCTION.

THE Report of THE LANCET Special Commission on the Relative Efficiency and Cost of Plumbers' Work, published in THE LANCET of July 4th, 1896 and subsequently reprinted in pamphlet form and extensively circulated,[1] met with such favourable acceptance that it has been deemed expedient to extend the inquiry.

Nature of Inquiry —The former Report dealt only with town houses, where it was assumed efficient systems of public water supply and drainage existed It is, however, only too evident that in rural districts where no such provision exists there are a very large number of houses more or less isolated which are most inadequately provided for in these respects, and indeed are surrounded by most insanitary conditions. It is with these that the present Report deals

The Extended Nature of the Inquiry renders it impossible to avoid taking into consideration questions that are only remotely related to the plumber, and one of the principal difficulties is to confine the discussion of these collateral subjects within reasonable limits It must therefore be borne in mind that the object in view is to give a general outline only of the leading points.

The Importance of the Subject —The great importance of an adequate provision of pure air and water and the influence which they exercise upon the physical and moral well being of a people are so well known that it would seem at first sight unnecessary to call further attention to the subject That this is unfortunately not the case the annual death rate from preventable diseases bears a melancholy testimony

Preventable Disease —The mass of avoidable misery and suffering borne by thousands through the neglect of sanitary laws should surely enlist the sympathy and assistance of all Among the preventable diseases which may be regarded as connected directly or indirectly with defective drainage or polluted water are enteric fever, cholera, diphtheria, and diarrhœa; of puerperal fever alone some four thousand deaths occur annually, and undoubtedly a certain proportion are attributable to insanitary associations. Minor ailments, such as sore throat, indigestion, headache, and a general depression of vital force, are of frequent occurrence and may often be ascribed to similar causes.

The Economic Aspect —At the monthly dinner of the Article Club held at the Hotel Cecil in March, 1898, an after-dinner discussion on the Price of National Health was introduced by Mr Wolf Defries, the chairman. Mr. Defries said that notwithstanding modern progress in sanitation and public health matters, among males in 1895 the six principal zymotic diseases accounted for nearly 8½ per cent of the total mortality of the country, while tuberculosis accounted for 11 per cent more. The minimum value of a life had been calculated by Dr. Farr at £159 per head for lives of all sexes and ages calculated on the basis of the average earnings of the agricultural labourer, from which the cost of his keep was deducted Adopting this figure Mr. Defries showed that the country had lost in a single year—1895—£17,000,000 through preventable disease.

Instances —The outbreak of cholera in the east of London in 1666 was properly considered by Dr Netten Radcliffe to have arisen from the consumption of water taken from the polluted Lee

The outbreak of enteric fever at Worthing in 1693 was traced to contamination of the water supply by leakage of fæcal matter from the drain passing through fissures in the chalk into the well, a conclusion which was supported by Dr Klein's bacterioscopic examination of the well water The necessity for a frequent and regular bacteriological examination of any public water supply, in preference to a merely chemical one, is well exemplified in this instance Upon this outbreak Dr. Theodore Thomson reported that several chemical analyses of Worthing water, taken before as well as after the date on which the new supply was utilised, failed to detect any definite impurity in the water It was also reported by Dr Dupré that previously to the outbreak Professor Crookshank made two bacteriological and three chemical examinations with negative results.

The outbreak of cholera at Hamburg was traced by Professor Koch to pollution of the water from an infected vessel in the harbour combined with a defect in a filter at the waterworks In fact, most of the epidemics within recent years of enteric fever, cholera, or diarrhœa have been traced to either the water supply or to defective drainage, the defects in the former being frequently caused by some defect in the latter.

Cholera at Altona —As an instance of the liability of defectively planned sanitary appliances to become a source of danger to life when surrounded by other than normal conditions, the outbreak of cholera in Altona in 1893 in a poor district named Ottensen may be given Some of the houses were supplied with water from a well having a wooden top covered with earth and stones. Owing to the frozen state of the ground and gullies some badly polluted refuse water escaped over the surface instead of entering the drain and percolated into the well. Other houses in the same district not using the water from this particular well escaped infection. In the previous summer, when Hamburg suffered so severely from cholera owing to the polluted water-supply, this district, with the exception of two cases (one known to have been imported), was free although using the well. The sanitary surroundings were in a very unsatisfactory state. The same lesson is taught by every fresh outbreak of disease, yet but little impression is made upon those in other districts where exactly similar insanitary conditions prevail.

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[1] Copies of the Report in pamphlet form may be had on application to the Manager, THE LANCET Office, 423, Strand, W C, price 6d., or 7½d post free

Apathy of the Public arises from general indifference, a dislike to any alteration in the existing arrangements, coupled with an ever-present difficulty in all questions—viz., that of cost. No doubt of late years the depression in agriculture has formed an additional barrier to rural progress in these matters. To these causes may be added the fact that with most defective surroundings those in occupation frequently continue for a lengthened period without suffering any marked decline from a normal standard of health. The chance addition of some one untoward factor, a stopped drain diverting a flow of sewage or a severe frost fracturing the side of a reservoir, may be the immediate cause of an epidemic.

Local Waterworks.—It is, however, satisfactory to know that there are exceptions to this spirit of apathy, and there are in some places land-owners and others, members of parish councils or rural district councils, who are fully alive to the importance of these questions. It is such men, generally in the face of much opposition, who avail themselves of the powers conferred by the Acts of 1875, 1878, and 1894 to establish waterworks on a small scale for the supply of their own and their neighbours' houses in cases where the individual supplies are known to be defective.

Water Analysis.—Too much reliance must not be placed upon an analysis of any water intended for drinking, for water taken from the same source at different seasons may vary in a most remarkable manner. Dr. J. C. Thresh, medical officer of health of the Essex County Council, indeed, states that he has in two samples taken from one well at the same time, but at different depths, found very different results. Heavy rains materially influence water by washing various substances into the source from which it is taken.

In submitting a sample for analysis the vessel intended to hold it must in the first place be scrupulously clean and be fitted with a clean cork or, what is better, a glass stopper. It is well also to rinse it often with some of the water to be tested. After collection it should be submitted to the chemist with as little delay as possible. It is always impolitic, not to say unfair, to the analyst not to furnish him with the very fullest particulars of the source and its surroundings from which the sample is taken for this reason. An excessive amount of albuminoid ammonia or free ammonia might not condemn the water if their presence was known to be due to vegetable decay, though the same would be considered highly dangerous if the pollution arose from an animal source, though, of course, any excessive quantity must always be regarded with suspicion. Again, the absence of these substances is no conclusive proof of the safety of a water for dietetic purposes. Also the amount of chlorine in any sample, although it might indicate original organic pollution, need not of necessity condemn a water as the organic matter present originally might have become completely oxidised, the amount of chlorine remaining constant. It must, however, be remembered that local inspection of the source of supply is the only satisfactory method of estimating the risk of pollution to which such supply is liable.

Bacteria.—Again, should a bacteriological examination reveal any specific pathogenic organisms all doubt would at once be at an end, but when the search for them has been compared to that for the needle in the proverbial haystack their non-discovery is hardly conclusive proof of their absence. Professor Koch lays it down as a working axiom that any water that holds more than 100 bacteria germs capable of development to the cubic centimetre is unsafe for drinking. This seems to leave the odds rather in favour of the enemy, but when Professor Pfuhl speaks of having counted as many as 302,400 germs in one sample c.c. the 100 or less may be accepted in a spirit of thankfulness. There would seem good reason to believe that certain micro-organisms always present in fæcal matter may, under some conditions, assume a pathogenic character.

Dairy Farms.—A knowledge of the many opportunities for the pollution of a water-supply gathered from cases that have been reported upon from time to time makes it evident how much remains to be desired. Especially is this the case with regard to the water-supply of dairy farms, which requires careful supervision. As an illustration of want of observation on the part of an inspector and the little reliance to be placed upon water analysis the following is given. A man, thirty-six years of age, was taken suddenly with gastroenteritis; being placed upon a milk diet the symptoms rapidly became aggravated. The milk food was stopped and barley-water alone was given for forty-eight hours with marked improvement, only to be followed by a relapse on a return to milk food. The milk was again suspended with relief to the patient, but still it was not suspected, as others in the house were taking it in tea without ill effect; but when the milk was tried by the patient for the third time the connexion with the symptoms became too apparent. A change in the source of the milk-supply at once moderated the attack and a rapid and uninterrupted recovery was made. An examination of the premises from which the original milk was obtained revealed a shallow well in close proximity to a graveyard with a loam and gravel soil. The water from this well had been used for washing the milk cans. These premises had frequently been examined by the local sanitary inspector and presumably the nearness of the well to the graveyard had never occurred to him, though, as a matter of fact, they were only divided by a high wall. A few months prior to this occurrence an analysis had been made of the water with satisfactory results, but a second examination showed it to be highly contaminated. The first was made after dry weather and the second after wet. Several other cases of illness occurred in patients using milk supplied from this farm and the well was closed.

The Country Plumber.—The plumber is to a very large extent the master of the situation. This reflection possibly is not calculated to afford much consolation, more especially to those who are familiar with him in what may be termed the wild state. His opportunities for improvement have been limited, while frequently the little technical knowledge which he possesses impresses him with his own notions and bars his further progress. There are, of course, many exceptions, but the good man is as a rule drawn to the towns. When his powers for evil are contemplated a more than usual interest in his proceedings is engendered. What matters the original purity of water in a well if the plumber fixes the suction-pipe in such a manner as to allow foul surface water to flow back round the outside of the pipe into the well and pollute it? It is therefore of the greatest importance that the plumber should receive every encouragement for his improvement, as without doubt he occupies a most responsible position.

Should any considerable sanitary alterations be contemplated on a property doubtless an architect or other competent person would be consulted. In the majority of minor cases it is the local jobber, possibly a blacksmith or carpenter by trade, who makes what he considers the necessary alterations. Under these circumstances the desirability of keeping the water-supply and the sanitary arrangements as distinct as possible must be apparent to all. The plumber is, however, the man to whom attention must first be directed. Thousands of them, more or less competent, are at work in country places at the present time and it is no exaggeration to say that the result of their labours means health or sickness, life or death, to a vast number. The great difficulty is how these men are to be reached.

Plumbers' Registration, so as to ensure some measure of competency and control, offers the readiest means of grappling with the question. The Bill recently introduced into Parliament is most certainly deserving of more consideration than has hitherto been bestowed upon it.

Medical Officers of Health.—In the previous report it was suggested that the public were being educated to a right appreciation of this subject by the medical profession. Medical officers of health must still be considered our sheet-anchor and to them the public must look for any improvement and should yield them loyal support. There are many districts which active medical officers have made centres of light and learning in these matters and where their efforts have wonderfully reduced the local death-rate. It is desirable that these officers should wherever possible be free from the trammels of private practice.

Combined Drainage.—The law relating to easements is also one of great difficulty and at times a source of danger to the public health in growing districts. One cesspool is frequently shared by two or more properties and where alterations or additions are made to these buildings most undesirable complications not infrequently arise.

A common case is where the owner of a plot of land builds a row of cottages and drains them all into one cesspool in the garden of the end house. These houses in time are sold or let on leases with the usual covenants, including one for easement.

The lessee of the end house in this case has to keep his cesspool emptied to allow the contents of his neighbours' drains to escape. When a system of public sewers is introduced the lessee cannot connect his house into the new sewer and remove the cesspool until he has first drained into the sewer each of the houses connected with his cesspool. The result is that all these connexions with the public sewer are delayed, the unfortunate lessee paying the sewer-rate for each of these houses while retaining the cesspool and postponing, perhaps, the considerable outlay required from him.

Sanitary Inspectors.—One of the principal obstacles to progress in country districts is the insufficient emolument frequently offered to candidates for these most responsible posts. The poor remuneration, combined with the multifarious and often incongruous duties they are at times expected to perform, forms a barrier to commanding the services of the most able men.

District Councillors.—Speculating builders are frequently members of vestries and parish councils. They naturally seek to have a voice upon questions affecting new roads, rates, and many other matters in which they are more personally interested than most of their fellow parishioners; their influence, however, is not always for the general welfare where sanitary questions are concerned. The position of a conscientious sanitary inspector is often one of great delicacy in connexion with property held or erected by these members, the servant finding it difficult to take action against one of his masters. There are, however, cases where the presence of a builder upon a district council or vestry is a distinct gain. The individual interests of those in authority, in small districts in particular, greatly retards any advance towards a state of sanitary efficiency. A covers his garden with stables or keeps pigs; B runs the drainage from a row of houses into one cesspool in the end house in order that he may squeeze in an extra house in place of having them semi-detached, and it will be hard if C and D cannot find some way of making themselves a nuisance to their neighbours also. The result of this is that redress is most difficult to obtain. The sanitary inspector, generally a native, follows the lead of those who should set a better example. A, B, C, &c., are afraid of each other and look over these shortcomings by mutual agreement, well understood if not expressed. Here, again, the only hope rests with the medical officer of health.

Sewage Disposal: Water-carriage.—The water-carriage system has drawbacks and grave defaults are alleged against it, but it is the readiest if not the only method for the removal of excrement under the conditions of urban life. In the matter of sewage treatment we may expect to learn much from the Royal Commission now sitting on the subject.

Judging from present knowledge it is from some form of biological filter that deliverance from the difficulties connected with sewage disposal is to be expected. It is to a more natural system that attention is now being directed, for the use of chemicals is at best but an attempt to arrest a natural process, and by so doing the assistance of those forces of nature so beneficent as allies is lost, while an effluent is obtained unsuited for purposes of irrigation.

The Dry System.—If conformity with natural laws and the practices of antiquity are accepted as guides, then without doubt where circumstances permit the dry earth system is one that deserves most careful consideration. The great difficulty to be contended with in all systems of sewage disposal is the utterly listless, almost criminal neglect shown in regard to all matters of this nature by the bulk of the population. Any attempt at a general application of dry earth-closets most frequently results in disappointment, owing, firstly, to an erroneous impression on the part of local authorities that they will receive adequate attention from the individuals who use them; and, secondly, to the want of a scientific application of the dry methods where such have been adopted by sanitary authorities. At present the land to which the excreta are carried is usually too far from the points of collection. The large pails, intended to hold a week's output from each closet, are unwieldy, weighing when full some 180 lb. Their size renders them insanitary and repulsive, while their removal is both laborious and expensive. The amount of land frequently devoted to the purpose of reception is needlessly large. Recent experiments have proved that a plot of land of 600 square yards, equal to about one eighth of an acre, is sufficient for the disposal of the excreta of 100 persons per annum. The more central and the nearer the vicinity of the plot to the houses the less will be the expense of removal and the better the results obtained. By the adoption of some form of dry catch, such as described (pars. *144* and *209*), in place of the pail and by a system of daily collection one man with a hand truck would be capable of more efficient work than two men with a horse and trolley as at present. With the dry catch much of the liquid portion is evaporated, and the remainder being absorbed by the earth the contents of the catch cease to be sloppy, the weight being materially decreased. The almost universal but absurd custom of burying night soil deeply entirely defeats the object in view—viz., its rapid conversion into mould, whilst the practice adds greatly to the risk of polluting the surrounding water supplies. Night-soil so treated will be found at the end of many months still in its original foul condition. All such burial must be quite superficial—in fact, merely covered with earth. When this is done it will at the end of three or four days be scarcely—if at all—distinguishable from the surrounding earth. As a manure it may be said that fresh human excreta is unparalleled. Prejudice and the inherent slowness of the pastoral mind to assimilate ideas other than those acquired in early youth will probably contribute to the long-continued use of the inevitable leaky drain and cesspool. Indeed, it were vain to expect otherwise. The adoption of a well planned system of dry disposal by one of our large rural military depôts where such could have a fair trial might not only form a valuable object lesson to the country, but would afford excellent training to the troops in the event of active service in the field.

In place of any outlay upon main drainage and sewerage works necessitating the acquisition of considerable tracts of land for sewage farms, which last are not infrequently inadequately administered, an organised system for the daily supply of earth and for the removal and disposal of the contents of a suitable form of earth-closet would often be found more economical and sanitary. Notwithstanding the evils of the open cesspool system, with its many possibilities of water pollution, it is open to question whether the universal application of a regular drainage system in rural districts—always bearing in mind defective drains and fittings, *the vagaries of the so called plumber*, and the popular belief that a water-closet is a suitable receptacle for any odd refuse—may not at times be attended with equally injurious results.

Water supply.—An efficient system of drainage and the adoption of more natural methods for the disposal of sewage than commonly prevails is the first step to command a supply of pure water. In selecting a source for a water-supply ordinary common sense on the spot, when used, is mostly to be preferred to scientific knowledge at a distance. The wish to shift a responsibility on to other than our own shoulders and the glamour attached to any special knowledge in which we do not participate often induces us to think otherwise. The inquiry tends to show that, in most cases where there is no public supply and in some cases where there is, tube wells are the most wholesome and readiest source for a supply, though these are not wholly free from risk, yet when the tube passes through an impermeable strata the risk is reduced to a minimum. Rivers and lowland streams are, on the other hand, the most objectionable as being most liable to contamination and such water should never be used unless most efficiently filtered. In cases, however, as in the supply of large towns, much more care should be exercised than generally prevails to prevent fouling above the intake. Pending a development of the question of the London water-supply an infinitely purer water might be secured for London and other riverside towns if the Conservators of the *Thames* and the Lee were in a better position, both legally and financially, to detect and control the pollution of the rivers under their charge.

Old Country Houses are frequently worthy monuments of the artistic skill of the architects and the integrity of the builders of past generations. It would be little to the credit of their descendants if, fired by a new-born zeal, they disfigured their buildings with forests of unsightly ventilating pipes. Where difficulties in this respect present themselves the opinion of an architect should always be sought.

Plan of the Report.—A somewhat different system has been adopted from that of the previous report, it being found impossible to include all the necessary illustrations under a few examples. The subject is discussed under heads and the several sources of water-supply and the causes of possible pollution are taken in detail. To this is added a description of the means usually adopted for the disposal of the sewage.

One example only is given of a country mansion, but this is made to embrace a farmhouse and one or two cottages; the difference in treatment here is rather in degree than in kind. The question of efficiency has alone been dealt with, it having been found undesirable to offer any nearer approximation of prices than those already published for the town houses. This is owing to the fluctuations in the cost of labour and materials in different localities, the varying distances from towns or railways affecting the cost of cartage, &c. This may be roughly calculated at 10 per cent. advance upon London prices.

Results of the Inquiry.—The practical lessons to be drawn from the inquiry are briefly these: 1. To educate and register those employed as plumbers. 2. To bestow upon medical officers of health and borough surveyors a larger measure of independent authority than they at present possess, the interference by members of parish councils or vestries in purely technical questions being frequently attended with disastrous results. 3. The higher remuneration of rural sanitary inspectors with a view to attract more able men for the position. The same may frequently be said of borough surveyors. 4. The use of some simple form of biological filter, or the adoption of the best system of sewage treatment in all cases where the water carriage system is in use. 5. The great advantages possessed by the dry system for small or medium-sized properties for the disposal of excreta, the use of water carriage in these cases being at present almost invariably associated with cesspools and tending to soil and water pollution. 6. Additional care in the selection of water-supplies and greater regard for their protection from pollution together with provision for frequent inspection. 7. The little reliance to be placed upon any one analysis of water as conclusive evidence of its suitability for dietetic purposes and the great importance of local inspection in all cases.

THE REPORT.

1. In an investigation into a subject which, though mainly confined to plumbers' work, must of necessity touch upon most matters that relate to the sanitary condition of country houses, the difficulty of deciding what shall or shall not be included is great. The position of a house, the nature of the soil, its vicinity to water and trees may seem at first sight somewhat remote, but they influence considerably questions of water-supply, damp, and drainage. The internal plumbers' work in principle will be the same as described for town houses, but varied to meet the requirements of each case.

2. In a country house all drains connected in any way with a soil drain must be kept outside the building.

3. Water-supply will first be dealt with as briefly as possible. That this should be abundant and good in quality is one of the first essentials.

The desirability of various sources of water for domestic use are generally classed somewhat in the following order of merit:—

(1) Upland surface water after settlement in a lake or reservoir, as this water is generally impregnated with earthy matter.

(2) Deep well water from the chalk or greensand.

(3) Rain water collected on a properly prepared and enclosed ground.

(4) Land springs.

(5) Rain water collected from roof.

(6) River water.

(7) Shallow well water.

(8) Surface water from cultivated ground.

Nos. (5), (6), and (8) may be considered as extremely dangerous for dietetic purposes without previous treatment. No. (7) can only be used with safety where proper provision is made to exclude all surface or contaminated water.

4. The table given in the following paragraph on water-supplies and mortality from fever would at first glance seem to modify the above statement, but it must be remembered that the high place taken by river water as represented by London is owing to the very efficient system of filtration to which it is subjected and also to the sanitary surroundings of a large proportion of the people. Upland and moorland supplies are, on the other hand, very low down in the scale, owing in a very large measure to the defective sanitary condition of certain of the poorer districts.

5. *Water-supplies and Mortality from Fever.*—Mr. A. H. Smee, M.R.C.S. Eng., F.S.S., Chief Medical Adviser to the Gresham Life Office, in writing to THE LANCET, March 13th, 1897, gives the following. The table is the result of his investigations into the variations of the death-rate from enteric fever in several towns drawing their water-supplies from different natural sources. The calculations relate to the year 1896 and are taken from official Government statistics. The whole is of such interest that it is given *in extenso*. He says:—

"For comparison and to avoid decimals I have computed the mortality from fever per 1,000,000 living from a few typical towns the water-supplies of which are drawn from widely different sources.

	Rivers and Chalk.		
London...	137	Paris	110
	Chalk.		
Lemberg	288	Epsom (mean of last ten years)...	190
Rouen (and Wells; three-quarters of a year)	282	Portsmouth...	153
Hull	280	Rheims	131
Norwich	193	Brighton	118
		Lille	70
	Upland and Moorland.		
Belfast	550	Birmingham (and wells in red sandstone)	214
Dublin	453	Leeds	213
Liverpool	322	Leicester	202
Sheffield	293	Brussels (and wells)...	190
Manchester...	229		
Glasgow	223		
	Sand and Sand Lakes.		
Copenhagen	74	Amsterdam...	28
Berlin	65	Ghent	91
The Hague	38		
	Limestone Water.		
Linz	277	Gratz	101
Prague (and River Moldene)	214	Pilsen	91
Liége	117		
	Filtered River Waters.		
Magdeburg	84	Dresden	42
Hamburg	58	Frankfort	42
Cologne	49	Altona	41
	Snow Water Lakes.		
Zürich	104	Geneva	51
Lausanne	82		
	Mountain Water.		
Nuremberg	42	Munich	32
Vienna	40		
	Other Sources.		
Malines (shallow surface wells)...	993	Charlottenburg (ground water freed from its ferruginous matter by process of exposure to air)...	87
Antwerp (river water treated by iron filtration and shallow wells)...	154	Bristol (red sandstone)	79
		Dorking (greensand; mean of last ten years)	70

It will be observed that towns drawing their water-supply from sands, melted snow, and rivers have a lower rate of mortality from fever than those drawing their supply from either chalk, peat, or moorland gathering ground.

"Dr. Seaton, the county medical officer of Surrey, has shown in his report on water-supplies that the mean death-rate from enteric fever for the last decade for Epsom and Sutton, which obtain their water-supply exclusively from the chalk, was at the rate of 190 per 1,000,000 living, and that this rate was an increase over the mean death-rate of the previous decade. The mortality from fever at Reigate, another chalk supply, was 160. On the other hand, Dorking, which formerly derived its water from the chalk, but now obtains its water from greensand, had a mean death-rate of 70 per 1,000,000, and shows a material diminution in the death-rate from this cause. In Chertsey, which derives its supply principally from the Thames, the mean death-rate from typhoid fever was 90 per 1,000,000 during the same period. ...... I trust that I have made out a *primâ-facie* case for an exhaustive Government inquiry as to the cause of the susceptibility to and immunity from fever amongst populations deriving their water-supply from various sources. Moreover, it is at least open to discussion whether municipal bodies, who are empowered to levy rates for sanitary administration, are suitable authorities to act as amateur managers of trading monopolies."

6. Before dealing with each of these various sources of supply in detail an enumeration of some of the principal causes of pollution to which they are liable may, in order that they may be guarded against, be briefly summarised under two heads:—

(1) Pollution prior to delivery into the house of the consumer.

(2) Contamination on the *premises.*

7. POLLUTION PRIOR TO DELIVERY INTO THE HOUSE OF THE CONSUMER.

(1) From sheep and cattle pastured on the gathering-ground or having access to the spring head or reservoir.

(2) Dead animals in such situations.

(3) Dogs entering reservoir.

(4) The solvent action of the water on the pipes used to convey same to house (see par. 43).

Note A.—Water charged with peat has an exceptionally rapid action upon lead owing to acidity produced by the action of certain bacteria in the earth through which it passes It requires special provision in filtering through limestone before passing into lead pipes.

(5) The tow used in caulking the joints of iron mains (see par. 41).

(6) The house refuse of any outlying cottage on the banks of some tributary stream.

(7) Through the leakage of surface-water into the storage reservoir, either over the top or through the sides.

(8) Or by the insuction of foul water into the supply-pipe from some defective drain, cesspool, or from the surface drainage of the land.

(9) By the percolation of sea-water into wells, particularly in times of drought owing to the lowering of the water in the well below the sea-level, as recently occurred at Eastbourne.

(10) Small animals often fall into wells open at the top, together with dirt and surface drainage.

(11) Subsoil water enters shallow wells through the sides from adjacent drains, graveyards, manure heaps, cesspools, middens, *especially in a porous soil.*

(12) Through rat-runs between wells and drains, admitting foul air or overflow water.

(13) By men employed in digging wells, or in enlarging the bottoms of existing wells, or in fixing deep well-pumps.

(14) Foul water frequently enters wells following the course of the suction pipe.

(15) Rotting wood used in the construction of wells encourages wood lice, &c., and fungus.

(16) Surface drainage is carried into springs and wells through fissures without having first filtered through the soil. In limestone districts water will travel in such fissures for long distances.

(17) Through the brickwork and new cement used in forming reservoirs, particularly if road drift is used in place of sand.

(18) By leaky gas mains.

(19) In rivers and streams—manure from cultivated lands is washed in by rain.

(20) Many drains discharge sewage and factory waste into ditches that feed the streams.

(21) The refuse of houseboats and barges often thrown into rivers.

(22) By dead bodies of men and animals.

(23) By decaying wood and vegetable matter.

(24) By men, cattle, and dogs bathing

(25) By gipsies and others camping out and washing clothes and foul linen in river.

(26) By dead birds and dead fish and refuse of picnic parties.

Most of the foregoing will be greatly aggravated in times of flood.

8. CONTAMINATION ON THE PREMISES.

(1) Cisterns without covers not only admit dirt, but mice, birds, and the remains of household pets are occasionally found in them.

(2) Ventilating pipes frequently terminate close to cisterns or their overflows or under the open eaves of the roof where cisterns are fixed.

(3) Air pipes from service boxes in cisterns supplying both closets and sinks.

(4) By waste pipes directly connected with soil drains.

(5) By broken cistern lids and felt used as a protection against frost falling into cistern.

(6) Service pipes laid in same trench with drain offer risk of insuction of foul water.

(7) By service pipes crossing under or over drains, unless especially protected.

(8) Rain water collected from a roof is liable to extra risks from soot, tame pigeons and wild birds large and small, their nests, also cats.

(9) Dead leaves and accumulation of dirt in gutters, particularly in trough gutters running from back to front inside roof.

(10) The dirty and indolent sometimes throw bedroom slops and rubbish into gutters from attic windows.

(11) Gutters are fouled at times by sweeps and other workmen.

(12) Neglected filters.

(13) Dirty sinks, especially housemaids' slop sinks, the taps of which are liable to be splashed by slop water, or have dirty house-flannels laid on them to drain often just prior to filling the drinking-water bottles

(14) From insuction where there is an intermittent supply.

Note B—Plumbers frequently fix in cisterns that are near sleeping-rooms a pipe on to the end of the ball valve to carry water to bottom of cistern without noise. When water is drawn from the main at a lower level this pipe acts as a syphon and will such back the water into main from cistern, including of course any dirt that may be in the cistern at the time. Very serious cases of insuction have been recorded, including one from a public urinal.

Labourers are commonly deputed to clean out cisterns, their boots and clothes are frequently defiled by working in old drains and in removing old soil pipes

(15) Water becomes polluted in cisterns placed in or over water-closets, also under floors of bedrooms and in sculleries and other places to which drain air may find access.

(16) *Underground* cisterns may be contaminated by defective drains and surface-water and are liable to damage by frost.

(17) From dipping dirty bowls, &c., into cisterns and storage tanks.

(18) From the action of water upon metals, as lead, galvanised iron, or zinc, used for cisterns or pipes, lead flats, or gutters.

(19) Through the use of dirty mops or brooms in cleaning out cisterns.

SOURCES OF SUPPLY.

9 *Moorland or Upland Surface Water.*—In order of initial purity we have "upland surface water." This generally forms the source of supply in mountainous or moorland districts, where the rocks are either igneous, metamorphic, or are formed of hard millstone grit. The thin soil does not admit of cultivation, and is used only for the pasturage of sheep. The organic pollution from this source may be reckoned almost *nil,* for, unlike the lowlands, where so many sheep are allotted to each acre, here so many acres are allotted to each sheep Occasionally one may die and decay in some out of the-way spot, or even fall off a rock and be drowned in a torrent bed. Even this is not such an important matter as might at first sight appear, for water that falls over rough and broken ground is very rapidly oxidised.

10. The town of Torquay, which draws its supplies from Dartmoor, has recently spent a considerable sum of money in obtaining the right to, and in enclosing, the watershed from which its supply is derived. It frequently happens that water drawn from such a source is heavily charged with peat or earthy matter and occasionally with iron, in these cases a subsidence reservoir is desirable. As already mentioned, water charged with peat acquires a considerable amount of acidity, which acts very rapidly upon metals, particularly upon lead, this action may be obviated by saturating it with carbonate of lime, which is done by passing it through a limestone filter, the only objection to this being that it adds considerably to its hardness. The experience gained from Yorkshire and other places using moorland water, should exclude the use of lead pipes (par. 43). Water containing carbonates forms a coating of carbonate of lead inside the lead pipe, which being insoluble in water prevents any further action taking place. Of course, being dependent upon such a source for a supply a reservoir is a necessity (*see* pars. 53 to 62).

11. The following is a digest of a short table recently

published by the Meteorological Office of rainfall during the past twenty-five years:—

Approximate Average Annual Rainfall.

England and Wales.	
North-east	26·50 in.
East	25·00 ,,
Midlands	25·00 ,,
South	29·00 ,,
South-west	40·40 ,,
North-west	36·60 ,,
Ireland.	
North	38·00 in.
South	39·00 ,,
Scotland.	
North	52·00 in.
East	32·00 ,,
West	50·00 ,,

12. It will be noticed that the annual rainfall varies considerably in different parts, but is usually heavy in the western counties and in elevated situations. The best way to form a calculation is to take an average of the fall in any three consecutive dry years, which will very likely amount to some 30 in. The general average would be much more, but this will probably be carried over the reservoirs in times of excessive floods. The quantity collected will prove to be considerably less than the rainfall, as it is affected by the nature and inclination of the rocks, the amount of vegetation, and the evaporation. Evidence has been given before a Royal Commission which would tend to show that this is a very constant amount and not dependent upon the rainfall, the average being about 13 in. The amount lost by evaporation from an open reservoir is about 30 in. in depth per annum over the whole surface.

13. *Deep Wells.*—Deeply dug wells are perhaps the next most frequent sources of supply. They are of course subject to the same risks of pollution as the shallow ones, with the addition of the possible entrance of contaminated water through fissures at a considerable depth. The outbreak of typhoid fever at Worthing in 1894 was from this cause, while the fact that fissures were present in the well supplying Eastbourne in 1896 is proved by sea-water having entered the well. This was in all probability owing to the drought in the early summer having caused the water in the well to sink below the sea-level. It is impossible to exercise too much care to ascertain the exact character of water entering wells through a fissure, especially if situated in the neighbourhood of thickly populated districts, as water has been known to travel long distances through them without undergoing filtration; indeed many wells have had to be abandoned on this account. The subject of the geological formations which are most desirable as sources from which to draw a domestic water-supply and the character and quantity of water likely to be found in the various strata, though interesting and intimately connected with the subject, can be omitted, the opinion of an expert upon these matters being invariably taken prior to the appearance of the plumber on the scene.

14. The practice of boring at the bottom of a dug well in order to form a reservoir, as well as to obtain a position for the pumps, is now seldom resorted to. With the dug well, unless the upper stratum be an impermeable clay, iron cylinders must be sunk as far as is necessary to keep out the surface drainage, as in shallow wells, and this is frequently a costly process. In the "Tube Well System" the tube from the pump to the spring is a continuous one, and the pump itself is attached to the tube by an air-tight connexion. This removes the pressure of the air from the water in the tube. The velocity of the flow of the spring is also thereby greatly increased, the removal of the pressure of the air from the water in the tube being equivalent to a greatly increased head of water in the spring. If necessary, these pumps can be placed as low as 150 ft. or 200 ft. from the surface. There is one point which should always be kept in view—viz., that the tube throughout must be connected so that neither surface water nor sand may obtain access into it. The cost of boring such a well to the depth of from 200 ft. to 300 ft. would amount approximately to some 20*s.* per foot.

15. The publicity given by inquests held upon workmen who have lost their lives by descending wells in which carbonic acid gas has accumulated should deter others from running such unnecessary risks, but apparently such warnings are thrown away. In The Lancet, Jan. 9th, 1897, an account is given of such a catastrophe in a well belonging to the Hastings Corporation which resulted in loss of life to one workman and nearly proved fatal to a second. The well was an open one some 60 ft. deep, lined with iron cylinders for 20 ft. down and with brickwork for the remaining 40 ft.

16. The common precaution of lowering a lighted candle into the well before descending had been neglected. It may be pointed out that it is only safe to enter a well when the flame of the candle burns with undiminished brilliancy and not only when it is not extinguished, as combustion may continue in air dangerously charged with carbonic acid. A well may be cleared of foul air by slowly lowering a bright fire in a perforated iron pail, when the heated air ascending carries up with it the heavy gas that has accumulated at the bottom, or a pail of freshly burnt lime saturated with water may be lowered, in which case the carbonic acid is absorbed.

17. In all cases where the supply is taken from a well pumps are necessary to raise and force the water into a reservoir or cisterns. The suction pipe should always receive particular attention, not only that surface water may not flow back round the outside of it into the well, but that the pipe is so supported and protected from injury in its course under the ground that no insuction of ground water may occur, such faults being very difficult of detection when they arise.

18. *Rain Water Collected from Artificially Prepared and Enclosed Ground.*—Rain water collected upon an artificially-constructed gathering ground is rather an expensive but a very satisfactory source of supply. Asphalt laid upon a concrete bed forms the best floor, the space necessary to devote to this purpose will of course be governed by the requirements of the establishment and the probable rainfall (see pars. 12 and 185). It is usually calculated from the fact that an inch rainfall yields some 22,622 gallons to the acre. It is most important that any artificial ground of this kind should be carefully fenced off, the lower part wired with netting sunk 2 ft. below the soil where it is turned outwards about 12 in. to exclude rabbits, and means must be adopted either by keeping the ground raised above the surrounding land or by forming a ditch round the same area to prevent the access of surface water.

Note C.—Rabbits in burrowing under any obstacle invariably sink a hole almost close to it and so come upon the buried wire; were it not that they were stopped by the horizontal piece forming a floor they would simply go down and under the vertical wire, but they seem to have no idea of working backwards so as to clear the 12 in. of flat wire.

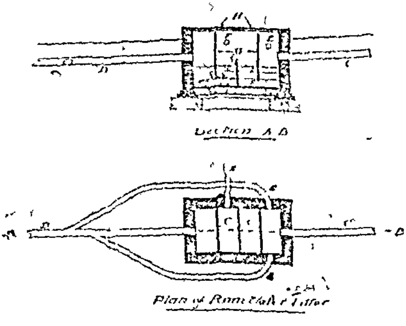
19. *Land Springs.*—Where a house is so fortunately situated as to have a constant and reliable spring in its vicinity the water can be conducted to it by gravitation if the spring is at a sufficiently high level (see par. 56). If, however, the house is higher than the spring, then it must be pumped up by means of a water-ram, a water-wheel, or a windmill (see pars. 46–49). Care should be taken to see that the spring is not fouled by cattle and small animals, or by drainage of surface water from the adjacent land. It should be railed round at least some 6 ft. from the edge, and the ground must slope away from and not towards it, as is more often the case, also as much as possible overhanging branches should be cleared from the trees that leaves may not fall into it. Should the spring be steady but small in volume an increased supply may frequently be obtained by opening up the spring head. It may, however, be found necessary to form a small reservoir (see par. 53, &c.), in which the water can accumulate in order to meet the extra demands made upon it at certain hours of the day; a storage reservoir is not otherwise desirable, at least, so far as the domestic supply is concerned. From whatever source, however, a supply is obtained a quantity should be stored at a height sufficient to give the requisite pressure for the supply of fire hydrant (see par. 56), as it is essential that these should be fixed at various points. Mostly, if a country house takes fire, it is doomed.

20. A land spring being in most cases dependent upon similar conditions for its supply as a shallow well, the caution given respecting pollution (pars. 31, 32) should be borne in mind.

21. *Rain Water from a Roof.*—Frequently an abortive attempt is made to utilise the rainfall by the construction of a cistern in the roof, into which the water from the several gutters is conducted. The common mistake is that the space allowed for storage is too small; the cistern is filled by the first shower, after which a much larger quantity runs to waste. The large area generally covered by the roof of a country house offers a favourable opportunity for the collection of a

supply of soft water, valuable for the laundry or for personal ablution. Owing, however, to its liability to pollution during the process of collection it is an undesirable source for drinking-water, unless very efficiently filtered. One of the chief causes of pollution in water so collected is, that large birds, such as pigeons, daws, starlings, as well as smaller birds, constantly build in or upon the roof of a country house. In the case of a roof with dormer windows that open on to the leads and gutters it is a temptation to the careless and indolent to empty bedroom slops out into the gutters. That this is very frequently done the accumulation to be found round the outlets to the rain-water pipe testify. Another danger is the liability of the water to absorb lead from the flats and gutters in its passage down the roof. Cats again are extremely fond of basking upon a roof, doubtless attracted by the seclusion and the chances of sport offered by the birds; their presence there is a constant source of pollution. The great advantages offered by a soft water for purposes of ablution and for use in the laundry make it most desirable to utilise the rainfall on the house roof wherever practicable. The roof of a large country house might be taken as an example, though it is equally desirable to collect it if only on a cottage. On a roof that covers 4000 ft. superficial area—not an excessive size for a country house—an average rainfall of 26 in. would yield a gross supply of 54,162 gallons. This, after 6 in. have been allowed for absorption and evaporation, an ample allowance on an ordinary roof, will give a net result of 41,662 gallons, or a daily supply for an average of fifteen persons all the year round of over seven gallons and a half per head. Where it is intended to utilise the rain water from a roof it is well to pass the water through some such rough filter as is shown in the illustration, Fig. 1, which will occasionally require to be cleaned out and unless periodical cleansing is practised the filtered water may become more polluted than the unfiltered. A section is shown on the line A-B. C is a 6 in. inlet pipe, D the outlet, E storm 4-in. overflow, F an air pipe between slate divisions G. H is a manhole cover, I 4 in. of coarse gravel, J 6 in. of fine gravel, K 6 in. or more of sand.

FIG. 1.



Section A B

Plan of Rain Water Filter

22. The next important point is where to store this large quantity of water. In the eastern counties the provision must be greater than is necessary in the western ones, where the rainfall is more regular. Not less than a four months' supply should be provided. Not only have long periods of drought to be considered, but in cases where the number of occupants varies from time to time it often occurs, if the tank is too small, that much of the calculated supply will be lost. In the present case it will be necessary to store 14,000 gallons. To hold this quantity a tank must be built having an internal measurement of 15 ft. *square by* 10 ft. deep; a circular tank is more readily made water-tight. If circular, the tank would be nearly 13 ft. deep. In most cases this has to be on, if not under, the ground, as the weight of water alone, over 60 tons, is too much to place upon any building unless especially prepared. Should this water be intended for cooking or drinking purposes it is far safer to have the tank raised slightly above the ground. If this cannot be done the same care must be exercised to prevent pollution as in the case of a well (see shallow wells, par. 33), or built as shown in Fig. 20. A large proportion of the roof of a country *house is over the offices and built* at a low elevation, so that if the water from them has to be collected the storage tank must be at a still lower level, and the water in any case must be *pumped up to a supply* cistern situated somewhere in the upper part of the house. The storage tank must be properly roofed over and efficiently ventilated: as far as possible, light should be excluded to prevent the growth of vegetation (par. 182).

23. *River Water.*—Rivers and streams that pass through cultivated districts are dangerous sources from which to draw a supply of water for domestic purposes as the surface water that they collect is usually heavily charged with all kinds of organic impurities. In addition to manure washed into them by heavy rains, gipsies and others commonly camp out near a stream. For example there are two or three spots on the Thames near London that will occur to the minds of many. One a little below the "Bells of Ouseley," one at Walton, and another opposite the waterworks at Hampton. One very favourite camping-ground, where often large parties come to wash their foul linen, is by the One-mile Tree, midway between Kingston and Teddington. This last, however, is below the intake. Fortunately, in a large river like the Thames the risk is much less than would be the case in one of smaller volume.

24. It may be a picturesque sight to see some bare footed Scotch girl stamping linen in a mountain stream, or a native of India swinging a shirt as though it were a blacksmith's hammer against a flat stone, but it is certainly a practice little conducive to the health of the unfortunates who drink the water lower down. One other source of pollution is the overflow or soakage from cesspools, and here again the Thames furnishes many examples.

25. At Sunbury, to mention one example, though happily now that a system of drainage has been completed there this source of pollution will cease, some fifty houses backing on to the river are each drained into one or more cesspools situated in the gardens. Some of the cesspools are but a few feet from the river's edge, which can be the only possible outlet for any overflow; this is much aggravated in times of flood. Again, on a small island just above the Broome water at Teddington, during the summer from eighty to a hundred people camp, and this island, always saturated, being but little above the water line, is for this reason a most unsuitable soil to receive the excreta of such a large population and must greatly tend to pollute the river.

26. All of us who have hung on the bridge of some quiet village have felt saddened by the way in which these otherwise beautiful streams are outraged. More frequently than not they are used as the common dustbin for the village; old shreds of metal, rags of putrid clothes, and garbage of all kinds are freely flung into them. To quote the words of John Ruskin when writing in "The Crown of Wild Olives" of similar violation in the villages of Beddington and Carshalton:—

"I have never seen anything so ghastly in its inner tragic meaning—not in Pisan Maremma, not by the Campagna tomb, not by the Torcellan shore—as the slow stealing of reckless, indolent, animal neglect over the delicate sweetness of that English scene; nor is any blasphemy or impiety, any frantic saying or godless thought, more appalling to me—using the best powers of judgment I have to discern its sense and scope—than the insolent defiling of those streams by the human herds that drink of them."

Speaking of the inhabitants he adds:—

"They having neither energy to cart it away nor decency enough to dig it into the ground, thus shed into the stream to diffuse what venom of it will float and melt far away in all places where God meant those waters to bring joy and health."

Here, indeed, is an opportunity for the parish council or other local authority to benefit, not only their own village, but every other through which the same stream flows. There used to be, and probably there still are, villages in which a very primitive form of semi-public water-closet might be seen. It consisted of a long rail in lieu of a seat projected horizontally slightly over the stream, supported by means of some forked stakes. One of these villages suffered from a severe outbreak of typhoid fever in 1872.

27. It must be considered therefore highly dangerous to use water from such sources for dietetic purposes unless most efficiently filtered. The danger of such a source of supply has been well exemplified in the outbreaks of typhoid

fever which have occurred more than once at Lynn, in Norfolk. The supply was drawn some few miles down from the spring head of a small stream which had previously passed through a district partly marshy and in parts highly cultivated. Local opinion, it is true, is or was divided as to whether this water-supply might fairly claim to have been the original cause, or whether it was not due to the defective state of the drainage of the town. Of course, in such a case it would be almost invidious to give too decided an opinion; but if only a part of the charges made against the drainage system are true it may be assumed that honours are divided, while the report of the Medical Department of the Local Government Board did not leave much doubt on the subject. The outbreak already referred to at Hamburg is another example. Without discussing the question at any great length an allusion to some of the points to which Professor Koch draws especial attention when writing upon water filtration may be of service.

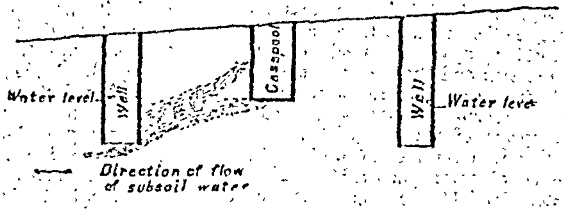
28. Of sand filtration he says: "We are compelled to admit that even under the most favourable circumstances it cannot afford absolute protection against infection, though it does afford a protection with which, considering the practical conditions of life one may rest content." He gives 30 cm. (slightly less than 12 inches) as the minimum depth for the sand layer; all dissolved matter passes through the filter. The most efficacious medium in the filter is the layer of slime deposited upon the top of the sand by the water, and this layer after a certain time, more or less according to the condition of the water and the number of bacteria present, becomes incapable of action. In summer water is particularly full of micro-organisms and this just at a time when most water is required; these clog the filter often in a few days. As a rule filters have not sufficient rest allowed them. When filtration becomes too slow this layer of slime must be removed, and until enough water has passed through to form a fresh layer of this material the effluent should be run to waste, an average of twenty-four hours being given as the time required to form this necessary layer. Thus it appears that it is one of the first essentials that this layer of slime should in no wise be disturbed while the filter is in action; this presents some difficulty as the entrance of the water, especially at first, is calculated to cause considerable commotion in the sand.

29. The rate of flow through the filter is another point that requires careful regulation. This rate is frequently calculated by a comparison of the quantity filtered in the twenty-four hours with the superficial area of the filter. Such a calculation is misleading, as the rate of flow will vary at different hours of the day according to the demands made upon the reservoir. Professor Koch gives as a maximum rate 100 millimetres per hour per square metre; he also considers that every three days the water should be bacteriologically examined, and when epidemics are imminent, or with open filters, in times of severe frost this should be done daily. In the latter case an exposed filter naturally would be rendered useless. As already stated filtered water containing more than 100 germs capable of development per c.c. should not be allowed to enter the pure water reservoir, and due provision for diverting such water should be made.

30. *Shallow Wells and Surface Water from Cultivated Ground.*—These are the commonest and in many cases the most polluted sources of supply. Their source is often surface drainage or shallow springs fed by the same. In small properties the well and the cesspool are often near neighbours. The soakage from the highly cultivated kitchen garden, the farmyard, the manure heaps, and even at times the churchyard, all adds its quota to the water in the well, as on analysis the presence of free ammonia, nitrites, and nitrates, will frequently testify. Again, small and sometimes even large animals fall into wells that are open at the top. Rats have a faculty of burrowing straight to water and will frequently make a tunnel from the old drain in which they live to the nearest well and thus form a most undesirable means of communication between them. Where, however, due care is exercised in amending their construction shallow wells may be retained and they are capable of yielding a wholesome supply.

31. The depth from the surface to which it is necessary to render a well impervious to water will depend upon the geological formation and the level of the ground water. In a light sandy soil a greater depth will be necessary than in one of a heavier character. When the ground water-line is only a few feet from the surface the well should have an impervious lining to a depth of at least 9 ft. or 10 ft. The position which the well occupies in relation to any building or possible source of pollution is also of considerable moment. The flow of the subsoil water at any given point being always in the direction of the nearest natural outlet, when such exists—as a spring, stream, or sheet of water—it is evident that the purer water will be found before it passes such possible point of pollution. For this reason, in the case of two wells situated but a few yards from each other, one may yield a pure water and its neighbour one highly contaminated (see Fig. 2).

FIG. 2.



32. It should certainly be an absolute rule that no drain, cesspool, midden, or manure heap should be within, say, fifty feet of the well, and in a gravel or very porous soil this distance should be exceeded. Again, the depth of a well affects the drainage area, for when the water in it is many feet deep the removal of this water by pumping has often a very far-reaching influence, in proportion, of course, to the density of the surrounding soil.

33. There are several ways of providing an impervious lining to a well. One is by forming a couple of single brick rings built in Portland cement and rendered on both sides in cement for a distance of some 10 ft. or 12 ft. below the surface of the soil more or less according to its permeability. This brickwork should be carried up to 12 in. above the ground level, care being taken to well puddle the space between the brickwork and the surrounding earth with clay. A second method is to reduce the opening of the well at the necessary depth with brickwork gathered over to support two or more lengths of stout cast-iron pipe 2 ft. in diameter, these to be fitted with caulked lead joints securely embedded at bottom and puddled with clay round the outside where it rests upon the brickwork, the ground round the well to be carefully rammed down at intervals, a few feet only being done at one time. There are to be obtained stoneware pipes for this purpose like enlarged drain pipes. When these are used they should be jointed in cement and puddled round the outside with clay as in the case of the brick rings.

34. It must, however, always be borne in mind that very severe frosts are liable to cause a fracture, and at such times the upper part of the well should be examined. Where good water is to be found at a depth not exceeding 150 ft., an "Abyssinian" tube-well will be found the least costly means to obtain a supply. They can be used to advantage in such soils as gravel, coarse sand, and chalk, but their use in clay soils, marls, or fine sand is not satisfactory. They cannot be driven through rock. The cost of such a well, say 100 ft. deep with a tube of 2 in. internal diameter, would be about £40. A well 20 ft. deep would probably not exceed £10, but this, of course, would depend upon the locality. Any well where the water is more than 25 ft. from the surface should be fitted with a deep well pump. There is far less risk of pollution in this form than in a dug well, provided the tube is perfect.

35. In some situations where a better supply of good water is obtainable at a lower level, an artesian well might be sunk at the bottom of the existing well, which can then be filled up. Professor Koch, in his book *on Cholera*, advises, on economic grounds, that all shallow wells fitted with pumps in dangerous situations should be *filled up*, first with coarse gravel and then with fine sand, so as to form a filter bed; the sand in such cases should be 15 ft. deep, with the perforated end of the suction pipe bedded in the gravel. The level of the ground round all wells, more particularly dug wells, should slope from and not towards the mouth, to prevent the entrance of surface water. A good plan is to enclose them in a small well-house. The pump should be within the enclosure, with only the handle and the spout accessible from the outside.

36. Another plan, and for some reasons a better one, is to have the pump fixed some little distance from the well, the top of which projects above the ground and is covered by a

large stone or iron joists and concrete cemented to render it watertight. In this case care must be taken with regard to two things :—

(1) That surface water cannot enter the well by falling back round the outside of the suction pipe.

(2) That should the distance from the well be considerable, the suction pipe must be of sufficient diameter to provide for friction in the horizontal pipe.

METHODS OF PURIFYING WATER.

37. *Domestic Filters*.—There are two principal actions that assist in the purification of water when passed through a properly constructed filter. The first is the mechanical straining of the solid particles present. The second is the oxidation of any organic matter by the atmospheric air contained in the pores of and the interstices around the medium used. Of the many filters that have been made those only dependent upon the efficient straining of the water are in any way reliable, and of these two only are known to be perfectly so, judging from a bacteriological standard. Most carefully constructed filters will, however, if constantly attended to, improve and purify water to some extent, but a neglected filter is worse than useless, fouling water instead of cleansing it.

38. *Boiled Water.*—For a private house dependent upon a doubtful source for its supply there is no protection equal to that afforded by boiling the water for ten minutes. To do this without some special contrivance is both expensive, troublesome, and unsatisfactory, inasmuch as it imparts to the water a flat and insipid taste, and although it may render it safe it certainly makes it very unpleasant.

39. In THE LANCET of Jan. 2nd, 1897, an account was given of the Lawrence process of softening and sterilising water by means of a condenser. For domestic purposes in particular this apparatus, it is said, has the advantage of being cheap, light, very portable, and not liable to get out of order. It is made in various sizes to boil from 12 to 150 gallons of water per hour; it is easily worked at a small cost; and either gas, oil, or a coal fire may be used for heating it. After careful experiments it was found to yield excellent results, the water being perfectly clear and bright, palatable yet soft to the taste, while above all it gives absolute security against infection from any water borne disease.

40. *Hard Water.*—It is scarcely necessary to dwell upon the desirability of the use of soft water in preference to hard. Economy, if nothing else, recommends it. There is a waste of two pounds weight of soap used in every 100 gallons of water that has 16° of hardness as calculated by Clark's process. Vegetables when cooked in it turn yellow and peas shrivel, but in soft water their colour is retained. Hard water compresses the pores of fresh meat boiled in it, while soft water has the opposite effect and acts as a solvent. The common cause of hardness in the water arises from the presence of bicarbonate of lime, also of sulphate of lime and sulphate of magnesia. Clark's process of softening water is the system commonly adopted by water companies who draw their supplies from the chalk. In pure water chalk is only soluble to a very slight extent, enough to impart some two degrees of hardness, but in water which holds free carbonic acid gas in solution 1 lb. of chalk can be dissolved in 560 gallons of water by 7 oz. of the gas. It is also soluble in water from an almost opposite cause—viz., by depriving the chalk of carbonic acid gas, as when it is converted into quicklime by heat. In burning 1 lb. of chalk 7 oz. in weight is lost by the loss of the carbonic acid gas driven off, the remainder, consisting of 9 oz. of quicklime, is then entirely soluble in 40 gallons of water. Clark's process takes advantage of this. The water to be softened which contains the 1 lb. of chalk per gallon is mixed with water containing 9 oz. of quicklime per gallon, when the 7 oz. of *free carbonic acid gas* which held the first 1 lb. of chalk *in solution* combines with the 9 oz. of quicklime *to form* 1 lb. of chalk, and this together with the *first* 1 lb. of chalk now no longer soluble owing to the loss of the free carbonic acid gas is precipitated at the bottom of the tank. This process is convenient and simple enough when applied on a large scale, but it is troublesome to apply for private use. There are several domestic contrivances which take Clark's process as a basis. (See also pars. 28 and 29.)

WATER-MAINS.

41. All mains should be of cast-iron, and where placed on bad or made ground must be laid upon a cement concrete bed to avoid fracture by settlement and also should be protected from contact with brick or plaster rubbish containing lime which is likely to corrode the pipes. Where laid under roads they must be *bridged over* to prevent damage by heavy traffic. All mains should be kept at least 3 ft. below the surface of the ground to preserve them at an equable temperature. With long lengths of iron pipe it may be necessary to provide expansion boxes. In laying large cast-iron mains the joints are made by packing them with yarn and then running in molten lead, afterwards driving this home with an iron caulking tool; care is required that none of the yarn is allowed to get inside the main, and as little should be used in each joint as possible. Water passing through very long mains may become contaminated through the decay of the yarn used in the joints; for many reasons it is desirable to tar all mains internally to prevent rust. Dr. Angus Smith's is the process most desirable, the pipes being coated internally with a form of black enamel while hot immediately after casting. Owing to the large amount of oxygen present in very soft water rust will very often form in masses that greatly diminish the discharge from the pipes. Difficulties frequently present themselves in laying long mains owing to the contour of the ground, and levels in all cases must first be carefully taken. No loss of head will arise through the pipes following the contour line provided they do not rise above the level of a line drawn from the highest to the lowest point. This line is called the hydraulic mean gradient. Should they do so air will accumulate at this point and loss of head will result. It should not be forgotten that a slight loss of head is caused by every bend in proportion as it is more or less acute. In deciding the size and thickness of iron mains the following points have to be taken into consideration: (1) the quantity of water required per minute; (2) the height of head; (3) the length of main for friction; (4) the height to which a jet of water is required to be thrown for fire hydrants. This last is greatly influenced by the size and shape of the nozzle used, the same head of water giving a jet greatly varying in height with different sized nozzles. It is impossible to offer in a few lines any general rule for guidance, as the several factors vary in almost every instance. With a little care by the help of a few good hydraulic tables the difficulty can be surmounted. The enormous loss of pressure by friction in long lengths of small pipes is a point too often lost sight of.

42. *Underground Waterpipes* in the vicinity of houses should be protected by being enclosed in a brick channel to prevent the risk of fracture when excavating at any subsequent time. They should never be laid in the same trench by the side of a drain, or cross one if it can possibly be avoided; should they do so they must be still further enclosed in a wooden trough filled in with pitch and be made to cross above the drain.

43. The use of lead pipes is most convenient for small mains and service pipes for house fittings, but the practice is one of too general application in view of the varying quality of the water in different localities. Iron pipes must be substituted for lead where the water is free from carbonates owing to the solvent action of soft water upon lead (see par. 10). Tin lined lead pipes found considerable favour for use with very soft water when they were first introduced, but owing to the fact that the lead was found to be acted upon by the tin they proved to be useless. The joints had to be made by means of brass connexions, and the tin lining having a much lower melting point (442° F.) than the lead pipe (617° F.) the soldering on of the brass connexions often leads to the melting of the tin. The cost of fixing also rendered it unsuitable for general use. More recently another endeavour has been made to overcome the difficulty by introducing a coating of asbestos between the lead and the tin, thus keeping the metals apart, while the non-conducting properties of the asbestos permit a plumber's ordinary joint to be made without melting the tin, but the risk from galvanic action between the tin and the lead remains.

44. In the use of iron pipes for hot water free from carbonates, as no fur is deposited on the insides of the pipes, the water is frequently discoloured by rust, being saturated with iron, so that in laundries, where a soft water is most desired, the circulating and service pipes should be of copper, or the clothes will suffer from iron mould. Where galvanised pipes are used the water becomes impregnated with the zinc, though after some little time this effect passes away.

45. *Fire Hydrants.*—It frequently happens that a house is dependent more or less for a supply of water in the event of

it is to be preferred to the enclosed, badly constructed, and badly ventilated cesspool upon sanitary grounds; being exposed to the air, and as a rule merely a hole dug in the ground, evaporation is rapid, and moreover it contains comparatively little moisture. In many parts of Devonshire, and doubtless in other counties also, closets are constructed bridging across some small stream, and such an arrangement is looked upon by the happy possessor as a great achievement. Possibly, so far as this individual is concerned, it is very satisfactory, not so, however, for the people dependent upon the stream for their water-supply lower down.

71. *Internal Cesspools.*—The occupiers of the smaller or medium class of houses, although they may suffer from the foul air from a cesspool when delivered into their house through a defective brick or pipe drain, are better off than their more wealthy neighbours in this respect. In the larger of the old country houses it was a common practice to build the cesspools *inside* the house, and it must be admitted that their construction is often a splendid example of the bricklayer's craft. In re-arranging any sanitary system in an old house search should always be made for cesspools in the neighbourhood of the bottom closet or soil pipe or in the cellar under these. Recently a cesspool was found under the floor of a large West-end mansion containing not less than seven or eight tons of solid soil. The house had been drained into the sewer many years ago and the builder who did the work was contented to only break in the top of the cesspool and cover it over with some dry rubbish.

72. In the large majority of old country houses cesspools are to be found, if not immediately underneath the house, at all events in very close proximity, the air from the cesspool being frequently drawn into the house when the fires are lighted. The distance that air may be drawn by a fire in old houses where the space under the floors and the hollow partitions, pipe casings, and wall panelling are connected together is very remarkable. This fact may frequently be noticed when search is made for the origin of some escape of drain-air, smoke, or gas.

VARIOUS METHODS OF DISPOSAL.

73. It will be better briefly to treat in order the several methods in use for the disposal of that which in the vicinity of the house cannot but be considered a nuisance: (1) the water-closet system, in connexion with cesspools to be periodically emptied or used for the purpose of irrigation; and (2) the deodorising system, either by the application of earth or chemicals.

74. The first system and certainly one which finds almost universal favour with the householder, being from this point of view the most convenient, is that of water carriage, the various so-called dry systems requiring more or less daily supervision. In either case there is a large quantity of liquid waste to be disposed of, as by eliminating the discharge from the water-closets not much more than three gallons per head per day out of a possible twenty gallons is diverted, the drainage from stables and farm buildings remaining in addition.

75. *Water-carriage.*—The water-carriage system had therefore better be first dealt with and may be thus divided into seven heads, which will serve to illustrate the means at present in vogue:—

(1) Where the whole of the crude sewage is passed on to large tracts of land, which is called broad irrigation.

(2) Where it is passed on to small tracts of land previously provided with subsoil drain and generally termed intermittent or downward filtration.

(3) Where the solid portion is precipitated either mechanically or chemically in tanks and the effluent after being again chemically treated or filtered is either passed out on to the land or is at once discharged into a stream. Of this nature is the so-called "Ferozone process," in use at Acton. The Native Guano Company in their works at Kingston-on-Thames treat the sewage of a population of some 42,000 upon a similar system. This process is installed at Wellington College.

(4) Where the whole of the sewage is passed through a strainer and the solids so caught are periodically removed and the liquid portion is either discharged on to the land or disposed of by a system of sub-irrigation.

(5) Biological filters alone or where the sewage is first passed through some form of "septic tank" and the effluent is filtered and discharged into a stream or passed on to the land.

(6) It is undesirable to pass sewage from a single private house direct into the *sea*, as for this system to be satisfactory much depends upon the set of the currents. Any attempt to carry out such a scheme properly is usually attended with great expense.

The foregoing six divisions will broadly include all the several systems in common use, though these consist of a great variety, varying in detail one from the other.

(7) Lastly, there is the old arrangement of cesspools.

76. *The Dry System.*—The second or deodorising system in which the solid excreta from the closets is dealt with apart from the liquid sewage consists mainly of the following:—

(1) Earth closets in various forms.

(2) Dr. Poore's dry catch system.

(3) The direct collection into vessels containing disinfectants.

To take the several systems in detail as applicable to the present subject.

77. (1) *Broad Irrigation* may be dismissed as being altogether unsuited to the requirements of a single house or estate. For this reason, unless the land available is well adapted for the purpose and is, moreover, of considerable extent in proportion to the quantity of sewage to be disposed of, the solid constituents present are apt to choke the pores of the earth, rendering it "sewage sick" and incapable of assisting irrigation (see par. 80). This system may, of course, be greatly helped by a suitable provision of subsoil drains and it is then called intermittent or downward filtration, No. 2.

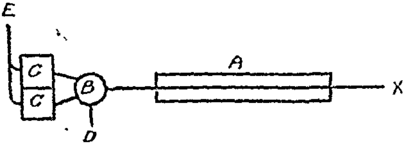
78. (2) *Intermittent Filtration* is, on the other hand, a simple and, on the whole, a satisfactory means of dealing with any considerable volume of sewage from a large estate or public institution. The land necessary to devote to this purpose may be taken in proportion of not less than an acre to every hundred of the inmates—rather more is perhaps desirable. This land is divided into plots, upon each of which in turn the stream of sewage is directed. No single dressing should be of a less quantity than one inch in depth over the whole surface of the plot, so that it becomes necessary to accumulate perhaps a week's sewage for this purpose. The size of the collecting tank and also that of the plot to be dealt with will of course be in due proportion, governed by the number of gallons available, reckoned at twenty gallons per head per day of the inmates. These plots should be six or eight in number in order that sufficient time may elapse between the dressings. The discharge is usually conducted on to the land through an annular syphon, the action of which is automatic, only the necessary attention being required to divert the stream towards the desired plot (see par. 198). The subsoil drains that collect the effluent are laid at various depths and distances according to the nature of the soil (see pars. 183 and 198). One hundred tons of sewage is required to cover one acre of land one inch in depth, which is the quantity considered necessary for each dressing, or about 22,600 gallons.

79. (3) *Where the Solids in Suspension are Precipitated.* This is effected in two ways, either by allowing the sewage to settle unaided in tanks or the processes are accelerated by the admixture of certain substances, as alumina, that fall to the bottom and entangle and carry down the more solid particles of the sewage at the same time, also to some extent acting as purifiers. The Public Health Act, 1875, requires every local authority (now the district council) to purify sewage before discharging it into a stream (Section 17). The Rivers Pollution Acts of 1876 and 1893 have also done something to prevent the indiscriminate pollution of streams, but on the whole their effect has been disappointing and the machinery provided by the Joint Rivers Boards is more hopeful. The various processes that aim at accomplishing the purification of sewage are far too numerous even to enumerate. The principle in all is invariably the same, the difference consisting in the means used. A short description of one or two systems will suffice to give a good general idea of them all.

80. The diagram (Fig. 4) shows roughly the working of the apparatus, the dimensions of course being approximate. The whole construction may be below ground if desired. A is a mixing place, into which the precipitants are thrown; B a Candy patent sewage tank; and C C, polarite filters. The sewage passes into A, where it is treated with ferozone, which contains ferrous iron salts, salts of alumina and magnesia, finely divided porous magnetic oxide of iron and finely powdered polarite,

which contains besides the foregoing silica and lime. From A it falls into the circular tank B, where precipitation takes place, and the sludge is raised by the Candy patent automatic apparatus and caused to flow out at the outlet D into a trench, where it is dug into the ground directly or removed and put upon the land. The supernatant liquid, which is fairly clear, overflows the sewage tank B into the filters C C composed of coarse gravel intersected by drain pipes laid upon the filter bottom; above this is 4 in. of fine gravel, then 6 in. of sand, then 10 in. of polarite mixed with sand, and on the top 9 in. of sand. The effluent passes out at E. The above system, though chiefly applied to the sewage of towns with varying success, has also been adapted to the requirements of an ordinary house with but few inmates. There is practically no effluvium provided the small amount of necessary attention is given, the chief point being the disposal of the sludge. In the case of a small property the effluent is dealt with by a system of subsoil drains as described for system No. 4, provided the fall of the ground will allow.

FIG 4.



81. The one objection to any treatment of sewage with chemicals is that it produces certain precipitates that delay nitrification and retard its assimilation by vegetation. Sewage so treated is always liable to secondary decomposition. The filters require to be cleansed and their contents renewed at intervals.

82. Another plan is that of the A.B.C. process, so called from the initial letters of the precipitants used—viz, alumina, blood, clay, and carbon. This method has been applied with success at Kingston-on-Thames and Aylesbury on a large scale and has been found equally successful when devoted to the purposes of a country mansion. There can be little doubt upon two or three points connected with this system: first, that the operation can be conducted without serious offence or detriment to health in a populated neighbourhood; secondly, that the guano produced has a definite market value of £3 10s. per ton; thirdly, as to the character of the effluent, in regard to which, before a select committee of the House of Commons upon private Bills, Professor J. Dewar, himself a member of the Royal Commission on the Water-supply of the Metropolis, in effect stated, in answer to questions 923 and 924, that he had examined this process in use at Kingston and was of opinion that such an effluent might safely be admitted into a stream provided the volume of water in the stream was sufficiently large and the water was not immediately intended for drinking. He thought in the case of the effluent at Kingston (which is some 1,200,000 gallons daily) that "it might pass into the Thames with perfect safety." It is, of course, the qualifying question of the possibility of the water ultimately being used for drinking purposes that renders the discharge of such effluents objectionable without having been previously passed on to the land, unless it discharges into a river below any point from which water for drinking is likely to be drawn. The case of a small effluent from a single house discharging, say, from 100 to 500 gallons daily would be different and the effluent might safely be turned into a ditch prepared as described in par. 211, as this amount would soon be absorbed, provided this ditch was at all points removed some fifty or sixty yards from any well or stream.

83. The Kingston Works on the foregoing principle may be thus described. The crude sewage in its passage to the pump well first passes through a screen, which intercepts all matters likely to clog the pumps; here it is treated with the deodorising and purifying mixtures B C. It is then raised by means of three centrifugal pumps driven by a powerful engine into a meter chamber and a record taken of its volume. From here it passes into the settling tanks, on its way receiving A, the alumina, which assists the process of clarification by the formation of a flocculent precipitate, the specific gravity of which is slightly heavier than water. The stream is not arrested in its passage through these tanks but passes out into the Thames comparatively clear. These tanks are periodically cleared of the sludge by means of pumps into a well, from which the sludge passes into accumulators by the creation of a vacuum and is then forced by air pressure at 100 lb. to the square inch into filter presses on the first floor of the building, whence it is removed in hard cakes. These pressed cakes are dried in a drying cylinder, with a fan and condensing apparatus attached, ground into powder, bagged, and sold as native guano at £3 10s per ton. Besides the foregoing arrangements there are two mortar mills for grinding the chemicals and two vats for dissolving the precipitants. Owing to the necessary outlay upon buildings and plant such a system could only be available for a large institution or mansion or where water power was obtainable.

84. (4) *Sub irrigation.*—This system is a convenient one for a small house possessing a moderate-sized garden, provided that the ground intended to be sub irrigated be situated a few feet below the level of the basement of the house to be drained. The system may be adopted omitting the catch pail, but the drain is then more liable to clog and occasionally the syphon tank will require cleansing from the sludge. The house drain after leaving the disconnecting syphon trap falls into a small brick ventilated chamber, access to which is obtained by means of an air-tight iron cover; in this chamber is suspended a galvanised wire pail, which retains the soil and paper from the water closets. This catch chamber may be situated at any point as most convenient between the disconnecting chamber and another, formed either of brickwork or iron, and capable of holding some 300 gallons of liquid, in which latter is fixed an annular syphon. This syphon when the tank is full discharges its contents into a subsoil drain formed as follows: a close jointed 4 in. drain pipe is laid from the outgo of the syphon, having on alternate sides junctions 8 ft. apart. This drain may be laid upon dry bricks put crosswise. Into the junctions are inserted branches consisting of ordinary 3 in. agriculture drain-pipes laid some 10 or 12 in. below the surface of the garden patch, also upon a bed of bricks or paving tiles, laid crosswise and flat. Each pipe is bedded upon a dab of mortar, care being taken not to squeeze any into the joints, and a similar dab is placed upon the top of each joint, thus leaving all of them open at the sides. When the syphon discharges, the whole being covered by some 4 in. of rubbish, the liquid oozes out between the sides of the joints of the agricultural drain pipes. These pipes will last for a number of years without attention; should they become choked either by accumulation or by roots it is a very simple matter to take up, clean, and relay the subsoil drain if care is taken not to disturb the bed upon which they rest. The wire pail will require to be emptied and its contents dug into the ground about once a week, not less. The objection to this system is that the drainage enters the soil below the level of greatest bacterial activity and the liquid is chiefly dependent upon the mechanical action of the earth for purification.

85. (5) *Biological Filters.*—Every age is dominated by some impressive discovery and possibly the researches into biology within the last ten years have done more to revolutionise our ideas upon things generally than the knowledge acquired in any similar preceding period of time. No fairy tale told by credulous peasant of the "little people" who labour for the good or punish the wrong doer ever exceeded in wonder the recent revelations of science. The final and satisfactory disposal of sewage in the presence of a rapidly increasing population is a subject that has an ever extending influence, not only upon the health, but upon the habits and wealth of a community. However much for purposes which we believe to be advantageous we defer the return of such sewage to the land this must be its ultimate destination. If the land is to be reproductive that which is taken from it must be returned in order to complete the cycle. This theory, though fully admitted in the case of stock and straw, is entirely ignored in the case of human beings and for this the system of water carriage as applied to sewage is chiefly responsible.

86. It is now well known that there exist in nature certain non-pathogenic organisms divided into two classes and named respectively anaerobic and aerobic, whose function in life, under the conditions that their name implies, is to convert the solid portions of animal excreta and effete

much slower process than the purification of the already liquid portion of the sewage a longer period of rest had to be allowed for this purpose in the first filter, in the construction of which preference was given to one of an anaerobic character having an upward action. An objection to downward filtration was that in time the sludge caked on the top of the filter and required to be raked over. The longer the sewage remained in this filter the greater was the reduction in the opacity of the effluent, but the most rapid filtration attempted did not permit any but the very finest particles of suspended matter to pass through. Upon the completion of the experiments very little suspended matter was found in the filter and of this about 43 per cent. only consisted of volatile solids, the rest being grit, hair, and fibres.

In sewage passed straight through this filter the oxygen absorbed by the effluent from permanganate, according to Tidy's method, was reduced about 30 per cent. After the sewage had rested in the filter for one hour the reduction exceeded 40 per cent. An increase, however, occurred in the oxidisable organic matter during the first twenty-four hours on the one hour figure, and afterwards diminished to a mean of about 20 per cent. on that of the one hour. This would indicate a reduction of unstable putrescible matter to an ultimate degree of stability more quickly than that of the more stable organic compounds to the intermediate unstable condition. Afterwards up to twenty-four hours when the amount of the unstable compounds was exhausted reduction to the ultimate stable condition only took place, with an increasing diminution of the oxidisable organic matter. The behaviour of the ammonias quite coincided with the action of the filter on the oxidisable organic matter. One curious effect was noticed—namely, that this filter under certain conditions had the power to abstract and store within itself the ammonia from the sewage. The action of this anaerobic filter was first a straining off of the suspended matter and liquefaction of the same with a partial amount of purification.

The secondary or nitrifying filters.—Of these it was said that changes which could only be expressed in terms of stability and resistance occurred repeatedly which are not indicated by analysis. As a result the importance of a number of these aerobic filters is clearly indicated. For instance, the albuminoid ammonia figure of the effluent of No. 2 filter on a certain day was 0·40 This filter had been charged with an effluent already subjected to twenty-four hours' rest in No. 1, but upon passing into and resting for an hour in No. 3 it was reduced to 0·16, or 60 per cent. Thus neither the long rest in No. 1 nor the hours' rest in No 2 had satisfactorily reduced the albuminoid ammonia, but the combined action of these two filters had so shaken the stability of the organic matter, as shown by the albuminoid ammonia, that in its passage through No. 3 filter it was reduced 60 per cent. Another argument advanced in favour of a multiplication of these filters is that the effluent first drawn off is relatively much worse than that passing subsequently, also that a filter may suddenly and unaccountably become over-taxed. A filter in its highest stage of biological efficiency will only effect a given percentage reduction on the pollution of its affluent. Supposing the pollution to be high and the filter capable of effecting a purification of 50 per cent. its effluent will still remain a filthy liquid, to be again reduced another 50 per cent. in its passage through another filter. Thus the process is continued till the desired stage of purity is arrived at. As a means of discovering the period of rest required by an over-taxed aerobic or nitrifying filter a daily estimate of the amount of ammonia eliminated per square foot of the surface of the filter was made, it being found that when this process was most active the filter was over-taxed and nitrification was practically at a standstill; and when with rest this elimination of ammonia ceased the filter was again found ready for work. Finally, the reduction of the unstable to the stable or ultimate was best effected by change of filters; that of the stable to the unstable by rest in a filter. High albuminoid ammonia, as already stated, indicated rest; high oxygen absorbed was an index for passing the effluent on to another aerobic filter.

95. *Vidangeuse Automatique.*—Upon biological lines but less exhaustively treated is M. Louis Mouras' "vidangeuse automatique," consisting of an air-tight box through which the sewage is passed and in which the anaerobic microbes are developed.

96. *Septic Tank at Exeter.*—The city of Exeter in 1896 adopted this principle with certain alterations and additions, for which Mr. Donald Cameron, the city surveyor, obtained a patent. A very full report of this tank and apparatus appeared in THE LANCET of Dec. 5th, 1896. Briefly it is as follows:—

About 90,000 gallons of sewage are dealt with daily and the installation is situated near to the town on the banks of the River Exe. With the exception of the septic tank, which is covered by a grass mound, the whole of the works may be said to be below the ordinary level of the ground.

The septic tank is 64 ft. by 18 ft., with a depth of from 7 ft. to 10 ft. and a capacity of from 61,000 to 72,000 gallons. Immediately outside the entrance to this tank is a small chamber, access to which is obtained by means of a manhole. This chamber, divided longitudinally into two compartments, is also provided with a cross weir adjacent to the tank, and into one or other of these compartments the raw sewage is turned, which allows of the one at rest being cleared of any deposit which may have accumulated. In each of these is a coarse screen, intended only to arrest any foreign object which might have gained access to the sewer. The inlets to this chamber, placed close to the bottom, being larger than the outlets into the septic tank, the sewage enters the chamber under a certain amount of pressure, thereby agitating any sediment, such as road drift, and enabling it to separate from the organic matter present; from here it flows gently over the submerged weir which divides this chamber from the septic tank. The tank itself is deprived as much as possible of light and air, and in it the sewage remains for some little time almost stationary, eventually escaping from the outlet which is situated about the middle depth. Under these conditions the anaerobic microbes multiply with such astonishing rapidity as soon to dominate the situation and unless for the entrance of fresh matter would be themselves destroyed by their own products.

By descending a manhole placed in the centre of the tank and fitted with a window may be seen a layer of floating scum containing the lighter solids, and at the bottom a thin layer of heavier sediment.

The greater part of the organic matter of the floating substance being dissolved the residue is drawn to the bottom by the ash, but here it is evidently seized upon by the microbes and a bubble of gas is formed which buoys it to the top again; here the gas escapes and it again falls; this process continues so long as any organic matter remains. The whole tank is alive with these particles and gas ascending and descending. The escaping gas being ignited the residue consists of inorganic ash upon which the microbes cannot feed; it was found that 2,000,000 gallons of sewage passing through a tank 24 ft. by 9 ft. only produced 4 in. of this sediment; a perfectly liquid effluent of a brownish-yellow tint most suitable for purposes of irrigation is the result. It is said that the action of the microbes is not interfered with by the presence of a certain amount of chemical waste from factories. At all events this is the case at Yeovil where it has been tried. Upon leaving the septic tank the liquid sewage has a slight odour, but after aeration in overflowing the sides of a V-shaped trough through which it passes on its way to the filters this odour is lost.

In the filters, of which there are five, two in alternate use and one at rest, the nitrifying organisms of the aerobic class are busy at the work of oxidation; this process is arrived at by the ammonia present being converted into nitric acid which combines with the bases present to form nitrates.

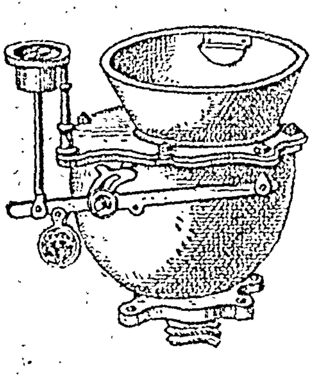
Coke, breeze, and clinkers to a depth of five feet are used in the filters and as each is charged an ingenious invention, forming part of Mr. Cameron's patent, diverts the flow automatically into the next filter and at the same time opens a valve which discharges the contents of the one just filled.

It has been found important that each filter should have a rest of one week in four. From these filters it is possible to obtain a perfectly clear filtrate containing a fifth of organic nitrogen per 100,000 parts, which is less than the amount suggested as being admissible by the Rivers Pollution Committee. Some fixed standard is desirable as to the amount of pollution that should be admitted into streams, these points being as a rule left for the decision of the chemist for the time acting on behalf of the several conservators.

97. *Dr. Poore's System.*—A description of Dr. G. V. Poore's system will be found illustrated in the treatment of the bailiff's house and lodge in the following example. The preference has been given to the water-carriage system when dealing with the mansion and other buildings, but

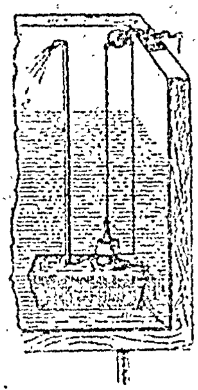
(Fig. 7) (see par. 22 of the previous report of The Lancet Special Commission on the Relative Efficiency and Cost of Plumbers' Work) and is supplied through a service-box in cistern O (see Fig. 8). There is the usual lead tray under the closet with an overflow-pipe into the D-trap (see Fig. 9) which is fitted under the closet.

Fig. 7.



Pan-closet.

Fig. 8.



Cistern and service-box.

132. *Recommendations.*—Form a window in the external wall 5 ft. by 3 ft. with double-hung sash, &c., complete. Make good the hole into the roof. Cut away for and lower the floor of this water-closet, as shown on section and plan (Fig. 12). Access to this closet will now be had by descending five steps. This will allow headway for a false ceiling to be formed over the closet and about 3 ft. below the present ceiling (see Fig. 12). A second window is to be made in the external wall between these ceilings and the sash hung on *centres* for ventilation; alter doorway and partitions to enclose closet and form new lobby. Prepare the floor and the walls for and line with white tile throughout. Provide and fix a pedestal wash-down closet with a flushing rim and an earthenware slop top fitted with a mahogany hinged seat and lid. Fix a drawn 8 lb. lead P or anti-D-trap (Fig. 10) under the same and carry a short branch of 10 lb. 3½ in. drawn-lead soil-pipe from the trap of the closet through the external wall to connect to soil-pipe G G with a 2 in. anti-syphonage pipe carried from out-go of trap into anti-syphonage pipe from closet W. Provide and fix on iron brackets in the closet some 4 ft. or 5 ft. above the basin a three gallon, silent, water-waste-preventing syphon cistern to supply this closet. Connect this cistern to the down service-pipe from cistern P by a short ¾ in. stout lead branch pipe fitted with a ¾ in. screw-down gun-metal stopcock and a ½ in. ball-valve to the cistern. Provide a ¾ in. lead overflow-pipe with brass connexion to the cisterns and carry it through the external wall. Lay on water to the basin of the closet by a 1½ in. lead service-pipe properly fixed with cast-lead tacks (see pars. 24 and 30 of the previous report of The Lancet Special Commission on the Relative Efficiency and Cost of Plumbers' Work).

Fig. 9.[2]

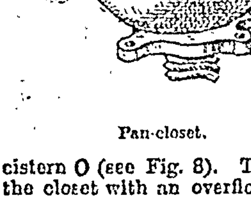
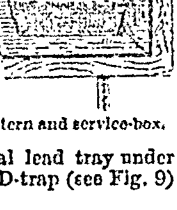


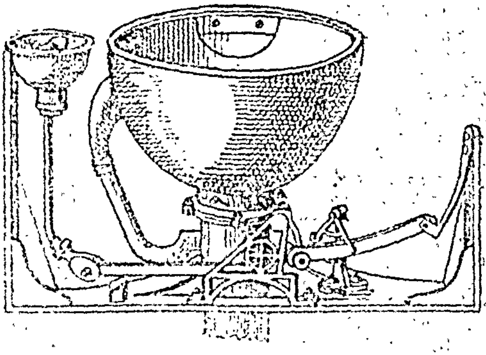
Fig. 10.



Anti-D-trap.

133. *Closet* T is of the old Bramah pattern (Fig. 11) with a fan spreader (see par. 27 of the previous report of The Lancet Special Commission on the Relative Efficiency and Cost of Plumbers' Work). Like water-closet S it has no direct communication with the outer air, having only a borrowed light from the bathroom (see plan No. 6). It is supplied from cistern O through a service box and owing to the length and smallness of the (¾ in.) pipe from the cistern the handle has to be held up a considerable time before the water reaches the pan. There is a lead safe under the water-closet which is connected with the soil-pipe of the closet; the waste of this safe is trapped in itself and is kept charged by means of a weeping pipe from the down service-pipe to the arm of the closet basin.

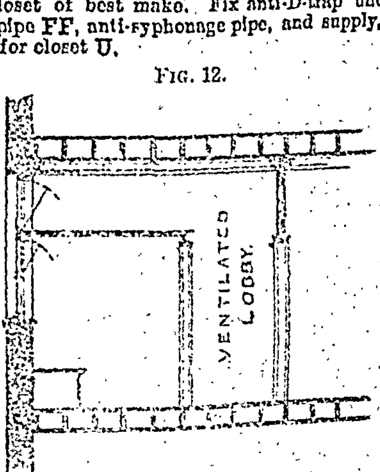
Fig. 11.



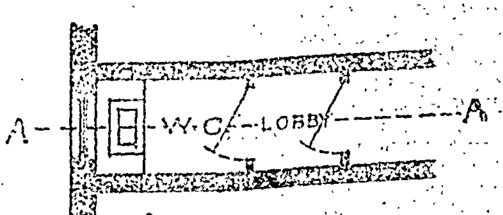
There is a D-trap under the closet (see par. 25 of the previous report of The Lancet Special Commission on the Relative Efficiency and Cost of Plumbers' Work).

134. *Recommendations.*—Remove this closet, clear away all connexions and make good the floor and ceiling. Erect a stud, lath and plaster, partition across present family bedroom, as shown on amended plan No. 9, with a 2 in. mahogany framed and glazed partition to enclose window, and form new enclosure to divide water-closet from bathroom, after the removal of old partition. Cut new doorway to connect bathroom with bedroom on east side, and provide all necessary doors, linings, skirtings, &c., to form a complete suite of rooms The lobby to the closet is ventilated as in closets S and U, Fig. 12 Supply and fix in new closet a valve closet of best make. Fix anti-D-trap under same with soil-pipe FF, anti-syphonage pipe, and supply, &c., as described for closet U.

Fig. 12.



SECTION A.A.



PLAN.

135. *Recommendations.*—Closet U (new). Form a stout stud lath and plaster partition across the end of the north-east bedroom, as shown on amended plan, with a new window of similar height to those adjoining and 3 ft. wide, fitted with double hung sashes. The lobby is ventilated by a window

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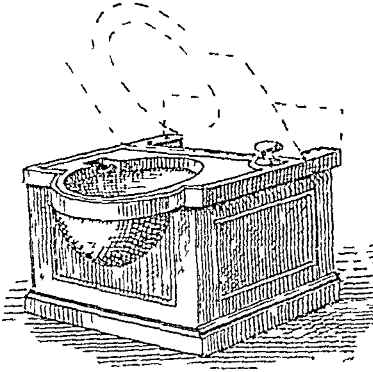
[2] For description see par. 23 of the previous report of The Lancet Special Commission on the Relative Efficiency and Cost of Plumbers' Work.

between the present ceiling and the false ceiling enclosing water closet as in closet S Render the walls of the partition on each side down to the floor level and prepare for and tile the floor and the walls throughout Provide and fix a pedestal valve closet of the best make (see Fig 13) and lay on a 1 in branch service pipe to the arm of the basin from the new 1¼ in down service pipe from cistern P fitted *with a 1¼ in screw down gun metal stopcock under the seat* Fix an 8 lb. lead anti D trap under as in closet S and carry a stout 3½ in 10 lb drawn lead soil pipe through the external wall connected to *soil pipe* HH fix a 2 in. anti syphonage *pipe from out go of trap* connected into soil *pipe* 3 ft above level of floor, and provide and hang a French polished mahogany seat and lid

FIG 13



136 *Closet* V is similar in all respects to closet S but is *provided* with *ample* ventilation and light, having a good window Owing however, to the defective condition of the plastering and to the openings between the floor boards skirtings, &c, whenever this closet is used a smell is drawn into the adjoining bedroom as is proved by the fact that smoke can be passed from this closet freely into the bed room

137 *Recommendations* —They are in all respects the same as for water closet T excepting the treatment of the anti syphonage pipe which is the same as closet U

138 *Closet* W is somewhat badly placed (see plan No 5) opening as it does directly into the billiard room The closet is of the kind known as a side wash out, with pan and trap in one piece of earthenware (see par 29 note *L* of the previous report of THE LANCET Special Commission on the Relative Efficiency and Cost of Plumbers Work) It is connected with a 6 in drain pipe continued down to the cellars and carried into the cesspool at the foot of the rain water pipe D

139 *Recommendations* —The position of this closet would be much improved if it were arranged as shown on the amended plan No 8 by which means a ventilated lobby is placed between it and the cloak room The doorway on the water closet side of the billiard room must be filled in with wood studs and lathed and plastered and the floor and the walls of the closet and the lobby must be prepared and tiled throughout Notice that the cloak room in this case has to depend upon a borrowed light being enclosed upon two sides with a glass partition The closet is to be replaced by a good pedestal wash down closet, with an 8 lb lead syphon trap Carry a stout length of 4 in 10 lb lead soil pipe from the trap through the external wall at the ground level with brass thimble (see Fig 14 also par 36 of the previous report of THE LANCET Special Commission on the Relative Efficiency and Cost of Plumbers Work) on end to connect into short iron drain to man hole Carry up the usual anti syphonage pipe described in par 150 provide a flushing cistern lay on water to the same with a stout branch of ¾ in lead pipe from the down service pipe from cistern P provide a stopcock, &c, make seat and lid, and in all details finish as described for water-closet T

FIG 14

Thimble.

140 *Closet* X is a pan closet supplied with water from cistern Q through a valve under the seat *The D trap below* is connected with the rain water pipe J by a stout branch of 4 in lead pipe It is not provided with a lead safe which in this case is unnecessary There is a good window for light and ventilation, but owing to the outlet of the gutter of the roof over the kitchen being just underneath the sill there is the risk of bad air entering from the foul soil pipe J At times this closet is useless, owing to its defective water-supply

141 *Recommendations* — Replace the closet by one with a short hopper basin having a flushing rim The basin is fitted into a lead cone and fitted into an 8 lb lead P trap Fix an earthenware slop top and a mahogany French polished seat and lid both to be hinged Continue a short length of 3½ in 10 lb drawn lead soil pipe through the external wall This is to be connected into soil pipe J (par 117) with an anti syphonage pipe as described for closet U Provide and fix on brackets a cistern fitted as described for closet S Prepare for and lay tile floor It is not so necessary to line these walls with tiles if they are properly plastered down to the floor the walls being of 14 in brickwork Make good the skirting round the back of the closet and the linings after the alteration to the window. Cut away and form a skylight in passage where shown by *dotted lines*

Note K—Care is required in selecting these closets as some of this shape are liable when flushed to form a vortex in the trap which is then cleared with difficulty

142 Closet Y. *Recommendations —Increase size of present* doorway and form brick arch Set back external door and frame to form lobby as shown on amended plan No 8 The dark cupboard under the servants' staircase is to be studded *round* at the back and one side is to be lathed and plastered and the cupboard, floor and walls are to be prepared and tiled throughout A window about 2 ft 9 in by 4 ft is first to be cut in the external wall and fitted with double hung *sashes* glazed with obscured glass There being insufficient headway under these stairs above the water closet in which to fix a flushing cistern a good valve closet (see Fig 15 also par 26 of the previous report of THE LANCET Special Commission on the Relative Efficiency and Cost of Plumbers Work) is to be provided and fixed facing the new window A 1 in branch pipe is to be connected with the service pipe to water closet W and is to be fitted with a screw down wheel stop cock under the seat of the water closet Provide a French polished mahogany hinged seat and *a lid with a moveable riser or front* Provide and fix an 8 lb lead syphon trap (Fig 16) under the water closet, this being connected with the heavy cast iron 6 in soil pipe by a brass thimble (see par 35 of the previous report of THE LANCET Special Commission on the Relative Efficiency and Cost of Plumbers' Work) and carried through the external wall into the manhole Should it be possible to connect a 2 in syphonage pipe into that from water closet W a

FIG 15

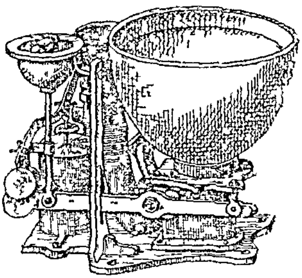
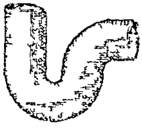


FIG 16

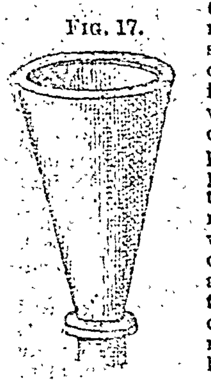


Syphon trap

drain will suffice. Fix a short piece of 2½ in. thick York stone to support the brickwork where the pipe passes through the external wall.

143. *Closets* **AA**, **BB** (see plan No. 5) are intended for the servants' use, **AA** being for women and **BB** for men. They are fitted with hopper pans and fan flushes (Fig. 17, see par. 31 of the previous report of THE LANCET Special Commission on the Relative Efficiency and Cost of Plumbers' Work) and are supplied from cistern **R** by means of cottage valves fixed under the seat. They discharge by a short drain-pipe into cesspool. The foregoing on reference to plan No. 5 will be seen to be an objectionable not to say indecent arrangement, in frosty weather, when no water is available, the state of these closets must be very bad. By the alteration shown on the amended plan these closets are still retained as earth closets for the use of the men servants; **EE** is added at kitchen entrance for women and **CC** and **DD** are provided for the use of the male occupants of the mansion and are screened from the gardens by shrubs.

FIG. 17.



144. *Recommendations.*—The old closets are to be removed, together with all the old drains in connexion with them, also any wet earth, which last is to be replaced with good dry brick rubbish or available dry earth, and covered with 4 in. of cement concrete after the alterations shown on the plan (No. 8) have been carried out. Cement the wall and floor, this last finished with a slight fall to back of closet, and line with tiles. These closets are raised upon two brick steps, and are not provided with any form of apparatus other than a box at the side to hold dry earth, together with a small shovel with which to throw it over the dejecta, and it is well to keep a hearth-brush in the closet for the removal of any earth that falls upon the seat. The floor of the catch under the seat being cemented one or two shovelfuls of earth are sprinkled over the same after each removal of the soil. This absorbs the urine. Every day or every week the accumulation is removed through a large trap-door at the back of the closet. This door has a space of some 3 in. at the bottom to allow of a free circulation of air. These closets, if regularly attended to, are entirely free from any objectionable smell and the humus derived from them will be found to be unequalled as a manure for the garden (see Plan 8, also par. 209).

145. *Closet* **EE**. *Recommendations.*—Provide and fix a pedestal closet with a bottom outlet (see Fig. 6 in the previous report of THE LANCET Special Commission on the Relative Efficiency and Cost of Plumbers' Work) and an 8 lb. lead syphon trap. Supply and fix on brackets a 3-gallon silent water-waste-preventing cistern connected with the closet by a 1½ in. service pipe. Lay on water to this cistern by a ¾ in. branch pipe from the service-pipe to water-closet and put a ½ in. ball valve in the cistern. This service-pipe is to be fitted with a ¾ in. screw-down stop-cock close to the flushing cistern. Carry a ¾ in. lead overflow-pipe through the external wall. Connect the outgoing pipe of the trap to a stout iron drain-pipe, all to be as described for water-closet **O**. The floor and the walls are to be prepared and lined with tiles throughout.

146. *Soil-pipe* **D** has already been described (see par. 111). It receives the contents of closet **T** and sink **JJ**, and the waste water from bath.

147. *Recommendation.*—This pipe will be removed entirely and a new 3½ in. 10 lb. lead soil-pipe **FF** is to be provided and fixed to connect with closet **T** with six 7 lb. cast-lead tacks to each 10 ft. length of pipe, the tacks being placed in pairs at equal distances apart. The bottom of the soil-pipe is to be connected by a brass thimble with the iron drain to the manhole. The branch soil-pipe from closet **T** is to be connected, the pipe is to be carried up and finish about 3 ft. above the curb roof and is to be properly secured by an iron stay. A copper-wire guard is to be fixed on the pipe with a 2 in. anti-syphonage pipe from outgo of trap connected to soil-pipe 3 ft. above floor level.

148. *Soil-pipe* **GG** is a 4½ in. seamed lead pipe which is carried down internally and receives the discharge from closets **S** and **V** as well as the waste water from the housemaid's sink **KK**. It is unventilated, and the longitudinal branch connexion with water-closet **V** is much corroded and perforated (see note *N* in the previous report of THE LANCET Special Commission on the Relative Efficiency and Cost of Plumbers' Work). It dips into a small brick pit at the foot, and is connected with a cesspool by a brick drain passing under the lobby of the dining-room.

149. *Recommendation.*—Provide and fix a new 3½ in. drawn-lead soil pipe **GG** connected to water-closets **S** and **V**, finished in all respects as described for the last closet, excepting only the anti-syphonage pipe, which is as follows:—

150. *Anti-syphonage Pipe.*—A strong 2 in. lead anti-syphonage pipe (see note *O*, par. 37 of the previous report of THE LANCET Special Commission on the Relative Efficiency and Cost of Plumbers' Work) is to be fixed at the side of this soil-pipe with cast-lead tacks weighing 4 lb. each, one pair of tacks being used for every 3 ft. 6 in. of the pipe. The bottom of this pipe is to be connected with the outgoing pipe of the trap of water-closet **W** with branches to the traps of closets **S** and **V**. The upper end of this pipe is to finish about 3 ft. above the curb roof and is to be secured by an iron stay. A copper-wire guard is to be fixed on the top of the pipe.

151. *Soil-pipe* **HH** is new. It is similar to the last and is connected with the branch from water-closet **U**. It finishes some 3 ft. above the coping. The anti-syphonage pipe is carried from the trap of closet **U** and is connected into the side of the soil-pipe 3 ft. above the branch connexion of the closet.

152. *Soil-pipe* **J**.—This has been described in par. 117.

153. *Recommendation.*—A new soil-pipe (described in par. 118).

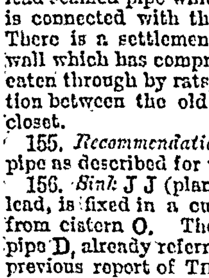
154. *Soil-pipe* **II** from water-closet **W** is a short 4½ in. lead seamed pipe which passes through the external wall and is connected with the drain communicating with cesspool. There is a settlement where this pipe passes through the wall which has compressed the pipe. The pipe has also been eaten through by rats, thus forming a means of communication between the old brick drain and the interior of water-closet.

155. *Recommendation.*—This will be replaced by an iron pipe as described for water-closet **W**.

156. *Sink* **J J** (plan No. 7), which is small and lined with lead, is fixed in a cupboard on the landing and is supplied from cistern **O**. The waste-pipe is connected with soil-pipe **D**, already referred to in par. 111 (see also par. 35 of the previous report of THE LANCET Special Commission on the Relative Efficiency and Cost of Plumbers' Work). There is a small D-trap under the sink, but the waste-pipe is unventilated.

157. *Recommendations.*—A doorway into the adjoining box-room is to be formed after the removal of the present enclosure to the sink and a moulded four-panel door and frame are to be provided and hung. A quarter framed partition is to be fixed to divide the box-room and to enclose one window, to convert same into a second bath-room and a housemaid's closet; the existing doorway is to be shifted as shown on amended plan No. 10; lath and plaster the partition on both sides down to the floor, and provide and fix skirting round the same to match existing ditto. There is also to be provided and fixed upon proper bearers under the window a white glazed earthenware sink 2 ft. 6 in. by 1 ft. 6 in. and a 1½ in. strong lead waste-pipe from the same is to be carried through the external wall, with a lead syphon trap fitted with brass cleansing screw fixed under the sink. A 1¼ in. short anti-syphonage pipe is to be connected to the outgoing pipe of the trap, terminating just outside the external wall, and a cross-wire guard is to be fixed over the end of the same (Fig. 18). A 2½ in. galvanised cast-iron pipe **UU** is to be supplied and fixed externally, the upper end standing some 2 ft. above the parapet wall and the lower end being fitted with a shoe to half channel laid to gully. A junction in this pipe is to be fixed to receive and connect the waste-pipe of this sink and bath waste-pipe. A wire guard is to be fixed on the top of the pipe. All the joints are to be made with yarn

FIG. 18.



and it is necessary to red lead the ends, and the sockets of each pipe are to be painted before fixing A ¾ in stout lead service-pipe is to be laid on to this sink from the down service pipe from cistern **H** fitted with a screw down horizontal bibcock Also a similar ¾ in stopcock is to be fixed in the service pipe to the sink The floor of this closet under the sink should be covered for a space of 5 ft by the full width with 7 lb lead, close copper nailed round and across

Note L.—The use of lead pipe for long lengths of bath or sink wastes on external walls is better avoided unless expansion joints are provided above and below the junctions of all branch pipes into same

158 *Sink* **KK** (Plan No 6) is lead lined and has a 1 in waste pipe trapped in itself The sink is supplied from cisterns **P** and **Q** and the waste water is carried into soil pipe **GG** Occasionally the trap syphons out when closet **V** is used

159 *Recommendations* (Plan No 9)—Remove sink and provide a sink as described for sink **JJ**, and fix by window connected with waste pipe **TT** and finished in all respects similar to **JJ**.

160 *Sinks* **LL, MM, NN, OO, QQ, RR,** and **SS** are all lead lined and are of various sizes Cold water is supplied from cistern **R**, soft water from cistern **Q** and hot water from cistern **P** All these sinks are immediately connected with the drain, the waste pipes dipping into brick built traps

161 *Recommendations* —The sinks marked **LL, MM, QQ, RR,** and **SS** are to be fitted with fire-clay enamelled sinks about 24 in by 16 in, having 1¼ in lead waste pipes carried over external gullies and fitted with syphon traps with cleansing screws Each trap is to have an anti syphonage pipe as described for sink **JJ.** The cold services are to be taken from the 1 in service pipe from cistern **O** to the hot water cylinder in the kitchen, with ¾ in horizontal screw down high pressure bibcocks to each sink A similar stopcock is also to be fixed in each service Sinks **NN** and **OO** are to be of wood, with a division in the centre, about 3 ft by 1 ft 6 in and 1 ft deep They are to be lined with pewter and in other respects are to be treated as the last excepting that there is to be in each division a brass washer and plug Either side of these sinks is to be provided with a grooved draining board, the whole covered with pewter The present service to small feed cistern boiler in servants' hall must be reconnected to down service from **O.**

162 *Sink* **PP** (scullery) is a large stone sink (see note *O* in the previous report of THE LANCET Special Commission on the Relative Efficiency and Cost of Plumbers' Work) supplied from cisterns **R** and **Q**, the present arrangements of which have been described under cistern **R.** (See par 129)

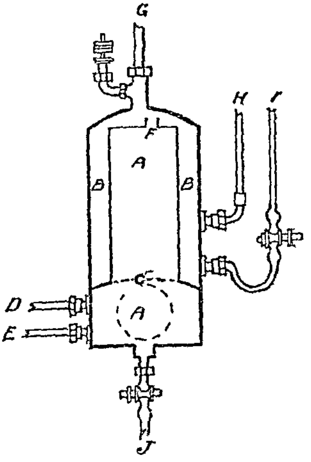
163 *Recommendations* —The scullery is to be partitioned off as shown on the amended plan No 8 to form closet **EE** with open lobby and passage to the kitchen, the windows in the scullery being now appropriated by the water closet A new one must be formed looking into the new side entrance passage to light and ventilate the scullery The partitions are to be built of 9 in brickwork The interior of the scullery and the larders is to be cemented and lined with white glazed tiles, but the remaining portions of the partitions can be finished in plaster The floor throughout should be paved with brick or Dutch tiles laid on a proper concrete bed A small lean to roof is to be placed as indicated on plan No 9 to shield larder windows from the western sun, and an extra sash is to be fixed in the end larder Provide and fix a glazed stoneware sink **PP**, 3 ft by 1 ft 8 in, placed on dwarf brick walls, with a 2 in stout lead waste pipe carried through the back wall chased in the same to deliver into flushing gully Fix under the sink a lead syphon trap fitted with a brass cleansing cap and screw A 1½ in anti syphonage pipe is to be connected just by the outgoing pipe of the trap and is to terminate externally, the end of the same is to be protected by a wire guard Provide a ¾ in screw down bibcock and connect with a stout ¾ in lead branch pipe from the 1 in down service pipe from cistern **H** A screw down stopcock is also to be fitted in this short service pipe Provide and fix under the plate rack a draining board covered in pewter to drain into the sink Should other sinks for washing vegetables be necessary they can be had in stoneware and treated in the same manner as the last delivering by separate waste pipe into the external gully

Note M.—Where as in the present instance a biological filter is used the fat must be kept out of the drain or the filter will become clogged An earthenware fat-trap gully must be substituted for the flushing gully and the accumulations removed and superficially buried at regular intervals

164 *Hot Water System* —There is a circulating system from the boiler in the kitchen to a tank fixed in the housemaid's closet on the first floor half landing The expansion-pipe is turned through the external wall (see par 52 of the previous report of THE LANCET Special Commission on the Relative Efficiency and Cost of Plumbers' Work) A small supply cistern at the side of the tank furnishes the supply, being connected by a ball valve to cistern **P**; the overflow pipe from this small cistern is connected into the waste pipe of the sink above the trap There are draw off taps at the bath and to sink **KK** and all those on the ground floor excepting in the servants' hall

165 *Recommendations* —Provide and fix in the recess at the side of the kitchen range a 50 gallon galvanised iron circulating hot water cylinder connected to the boiler by 1½ in flow and return steam pipe (see Fig 23 in the previous report of THE LANCET Special Commission on the Relative Efficiency and Cost of Plumbers' Work). Carry up from the top of the boiler a 1¼ in steam pipe and bring the same through the wall of the chimney breast and fit with a dead weight safety valve. Fig 19 shows a Lawrence patent cylinder and its object is to limit the amount of incrustation in it and the pipes by using the water in the boiler only for the purpose of heating that in the cylinder Its description is as follows **A** is an internal chamber rising from a diaphragm **C**, below which are connected the flow pipe **D** and return pipe **E** from the boiler, access to this chamber is provided for by means of a manhole **F** is an open tube passing up to within about half an inch of the top of the outer jacket of **B** and serves to connect the two chambers **A** and **B**, the pressure of water of course being the same in each Though thus connected it is found in practice that the two waters do not mix to any appreciable extent owing to the variation of temperature causing a difference in gravity **G** is the flow pipe to the bath, &c, and **H** the return pipe to the cylinder, **I** being the cold supply pipe from cistern **O.** Through this arrangement after the salts contained in the water in the boiler and in the heat interchanger or chamber **A** have been thrown down, comparatively little additional deposit takes place The water, however, from this or from any other form of circulating apparatus cannot be regarded as having been sterilised by heat owing to the great pressure generally present necessitating a much higher temperature than is required in an open vessel to raise the water to the boiling point The use of such a cylinder as above described

FIG 19 (Par 165)



is by no means a necessity where a steriliser is fixed (see par. 130), as nearly all the salts of lime and magnesia will have been eliminated previously to the water entering the boiler. The 1½ in. flow-pipe from the cylinder divides into two 1 in. steam pipes, one pipe passing along inside the front external wall of the wing and the other inside the back external wall, branches being carried down on each side to the several sinks; by this arrangement the presence of long lengths of branch pipes with dead water is avoided. Each sink is fitted with a ¾ in. gun-metal high-pressure, screw-down, horizontal bibcock. These two flow-pipes again unite at the end of the passage and pass up through the lavatory, housemaid's closet, and along the wall of the passage on the first-floor to the best bath-room, with branches to this bath, and the one on the second floor also to lavatory, servants' bath, and two housemaids' sinks, which last are provided with ¾ in. screw-down bibcocks like the others. The flow is continued up through the new housemaid's closet and is returned by a single pipe into the cylinder. An expansion pipe is carried from the highest point and is turned over cistern I in the cistern room. Provide a small expansion cylinder in this pipe above the level of the top of the cold-water cistern.

166. *The Best Bath* is composed of zinc enclosed by a mahogany framed casing. There is a lead safe below, the waste-pipe from which passes into the side of the D-trap of water-closet T. The bath waste-pipe is fitted with a running trap formed in the 1½ in. waste-pipe and is then connected with soil-pipe D. The bath has a hot and cold supply, the latter from cistern H and the former from the hot-water tank in the housemaid's closet; this supply is very sluggish, the head of water in the hot-water tank being but little above the bath. The supplies enter at the sides through two 1 in. plug stopcocks under the bath. There are worked by iron rods and lever handles. Owing to the cocks leaking and the *inside of the bath becoming rusty* the lead pipe between the cocks and the inlet to the bath has been punctured to allow of the escape of any water passing the valves when shut, occasioning considerable waste of water.

167. *Recommendations.*—Disconnect the bath, make good the inlets, and fit a plug waste in the bottom of the bath; re-enamel and re-use the bath in the servants' bath-room. Disconnect the waste-pipe of the safe from the D-trap which is to be removed and carry a 1½ in. lead waste-pipe through the external wall to deliver into the open air. Fit a copper flap-valve at the end of the pipe. Provide a new full-sized parallel enamelled copper bath and fix it with a vulcanite plug and plated fittings to the waste-pipe connected to the 1½ in. lead pipe and running trap; the waste-pipe is to be carried into waste UU from sink JJ. Take from the out-go of this waste-pipe a 1½ in. lead anti-syphonage pipe carried through the external wall fitted at the end with a copper-wire guard. Provide hot and cold overhanging screw-down plated cocks and connect with 1 in. galvanised iron pipes *respectively from* the down service-pipe from cistern O, and the hot-water system each fitted with screw-down stopcocks near the bath. Supply and fit a new mahogany bath top, refix bath casings and make good the floor, walls, and skirtings. Provide and fix a 1½ in. plated overflow at foot of bath having a lead waste carried through external wall, the end fitted with a copper flap-valve.

168. *Second, or Visitors' Bath.*—Supply an independent cast iron best enamelled bath, with plug waste properly trapped with anti-syphonage pipe carried through external wall and connected into that from best bath. Fix wood fillet on floor and cover space under bath with 7 lb. lead. Carry 1 in overflow through external wall, the end fitted with a copper flap valve. Lay on 1 in. galvanised iron service from down service from cistern O fitted with screw-down stop-valve by bath. Supply screw-down overhanging plated bib-valve at foot of bath and connect to same, also a similar valve for hot water and connect with 1 in. galvanised iron service from hot-water circulation, fit overflow grating to foot of bath and carry ½ in. short lead pipe to project through external wall—the end fitted with a copper flap-valve.

169. *The Servants' Bath.*—Provide a lead safe with a 1½ in. waste-pipe carried through the external wall, fix the old zinc bath and fittings taken from the principal bath-room, carry a 1½ *in. lead waste-pipe* TT into waste of sink KK and fit a running trap in the same with an anti-syphonage pipe as in the last bath. Provide lead safe and waste into open. Lay on overhanging hot and cold supply-pipe with brass screw-down bibcocks, each service provided with stopcock as last. Provide deal top and matched boarded enclosure to bath, fitted with door for access to safe.

Note N.—*Happily the greater facilities* for cleanliness now provided in the homes from which domestic servants are taken, together with similar opportunities offered in houses where they are employed, is producing a taste for more healthy habits among this class than prevailed formerly. It is not at all uncommon to find members of the families of the better class of mechanics who have never had a bath *that they can remember unless owing to the accident of illness.* The condition of these people when becoming inmates of a hospital proves this frequently.

170. *The Lavatory.*—After the alteration to the cloak-room has been carried out provide and fix under the window with moulded edge a white marble slab 1½ in. thick, the full length of opening by 1 ft. 9 in. deep fitted with two oval lavatory basins under the same, with a separate 1 in. overflow-pipe carried through the external wall to deliver over gully. Provide and fix a pull-up waste valve and connect a 1½ in. drawn-lead syphon trap under each basin and continue the waste-pipes through the external wall to deliver into gully. Provide a 1 in. anti-syphonage pipe from the outgoing pipe of the traps to finish externally, the end being fitted with a cross-wire guard. Lay on 1 in. galvanised iron cold supply-pipes fitted with overhanging cam action plated bibcock and connect a 1 in. branch pipe from the hot-water service pipe to similar bibcocks. Provide 1 in. stopcock as before described in each service-pipe.

Note O.—It is very desirable that each internal closet should be approached by a ventilated lobby, but this in all cases is not obtainable. A more complete plan than the one adopted would have been to build an annexe at the back of the house to contain all the closets and the bathrooms, but this would not have been so applicable to the general requirements of the public.

THE WATER-SUPPLY.

171. *Existing Water-Supply.*—There is a constant spring from the hills some 300 ft. above the house, the water from which is collected in a reservoir 150 ft. lower down. The overflow from this reservoir falls into the lake, the stream through which then passes on through the village which is a mile distant. This reservoir is silted up and requires thoroughly cleaning, embanking to exclude surface water, and fencing round. (See Water-storage, par. 53, &c.) *The service-pipe to the mansion has only* a 1½ in. bore and is altogether inadequate to the requirements. In addition there is a deep well by the bailiff's house and there is another at lodge No. 5 whilst a shallow well supplies lodge No. 8. (See plan No. 12.)

172. *The Main Supply.*—Form a *brick chamber 3 ft.* by 3 ft. 6 in. and of the necessary depth at the side of the reservoir to form a manhole for a stop-valve in the main. Connect into the reservoir 6 in. from the bottom at this point a 4 in. heavy cast-iron main laid with the usual molten and caulked lead joints carried to a point about 20 ft. from the north-east angle of the building, where it divides into two 3 in. branches, one passing along the south-west front of the house as far as the end of the kitchen wing and the other along the garden or north-east front to a hydrant at the extreme corner of the stables. From this point a 2 in. main-pipe is carried at the side of the road past the greenhouse as far as the farm buildings, where another hydrant is to be fixed. This main must be laid in a *trench at least 3 ft. deep,* it must be carried in a straight line from point to point, and be (see par. 41) of even fall throughout. In the immediate neighbourhood of the house and buildings and wherever passing through made ground it must be laid upon a 6 in. concrete bed. This main pipe will have 2 in. branches to hydrants fixed at suitable points all round the house at about 20 ft. or 30 ft. from it. A 2 in. strong lead branch pipe will also be carried up to the level of the second floor to a point outside water-closet S. Two other points will be provided, one in the cloak-room and the other by the doorway in the passage on the first floor connecting the main and the wing buildings. These points will be fitted with handy straightway lever valves (Fig. 3) and the usual hose and connexion. A ¾ in. stout lead branch rising main will be continued from this main to supply cisterns O and P fitted with equilibrium ball valve.

SUMMARY OF EXISTING ARRANGEMENTS FOR THE DISPOSAL OF SEWAGE.

173. *The House, Stables, and Laundry* (see plan No. 12).—There is an entire absence of any regular plan of drainage, the house having under and around it a number of cesspools the overflows from which are carried into the surface-water

drain from the garden paths, which last eventually delivers into a ditch running at the side of the avenue and falling into the stream that feeds the lake. The bulk of the solid matter is caught by the cesspools, while much of the liquid soaks into the ground from the defective drain and during its lengthy passage in the ditch, but little fortunately reaching the lake excepting during heavy rains.

174. *The Gardener's Lodge (No. 5) and Farm Buildings* drain into the ditch on the north-west side of the road.

175. *The Bailiff's House (No 6)* has midden closets, and the surface drains run into a ditch.

176. *Kitchen Gardens'* surface drains run into the pond in the garden.

177. *The Keeper's Lodge (No 8)* drains into a cesspool.

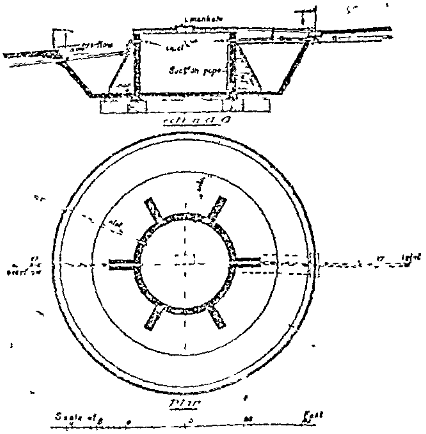
178. *Recommendation.*—The general system of proposed drainage is as follows, the details being given under different heads.

179. *The several Soil Drains* round the house (see plan No. 11) are collected in a disconnecting chamber marked 9 on plan No. 12 (*see also Fig. 21*); a drain passes under the terrace road to a point opposite the entrance to the stables; here it turns almost due west and joins the back road by lodge No. 6. From this point it runs in a direct line to the Moncrieff cultivating tank E. In its course it receives the soil drain from the laundry and stables, Nos. 2 and 3, and the connexion with the pond, lodge No. 5, and farm buildings No. 7. Further details relating to these buildings will be found under separate headings

180. *The Surface Drains* are formed entirely separate from the last and are collected so as to deliver half into the pond in the kitchen garden, while half passes into the hawhaw adjoining the drive. From this pond an overflow-pipe is carried into the ditch on the north-west side of the back road. There is also a connexion, fitted with a disconnecting chamber and sluice valve, between the pond and the main drain, to be used occasionally for flushing purposes. The rain-water overflow and the surface drains in the basement of the house deliver over gullies in connexion with this surface drain.

181. *The Rain water Drains* —Before discharging the rain-water into the storage tank it should be passed through a sand and gravel filter that will free it from any gross impurities which may have accumulated during the process of collection. The illustration (Fig. 1) shows a simple form of construction for this purpose. It will be necessary to provide a storm overflow for the ready escape of any large body of water which would be unable to pass through the filter.

FIG 20



182. The plan (Fig. 20) shows a good form of rain-water reservoir, but in the event of another suitable supply being available it would be undesirable to entail the outlay necessary for its construction. In the present case it is given simply as an illustration. The use of the steriliser marked Z on plan No. 8 provides a soft water equal to all requirements and the collection of rain-water is unnecessary. The plan and section (Fig. 20) sufficiently explain the principal details. This reservoir consists of a circular tank built in brickwork in cement supported by buttresses, the bottom of which is kept a few inches above the level of the surrounding area. The tank is covered over on the top, in the centre of which is fixed a ventilated louvre manhole—the whole is lined with Portland cement. Access to the tank is had by means of a short foot-bridge, which also carries the main inlet drain. The whole is surrounded by a light railing.

NOTES ON THE DRAINAGE SYSTEM.

183. *The Levels* —The first consideration of any system of drainage is one of levels, and where irrigation is to be adopted a fall of a few additional feet will be required. A large house, for instance, like the example given would need a fall of from 25 ft. to 30 ft., and as a rule this class of house is so situated as to admit of such a fall being available. If this is not the case a small cesspool or sump must be formed and the sewage must be raised by an elevator with the best power available. The fall will be divided somewhat as follows :—1. From the house to the cultivating tank, with an allowance for falls in disconnecting chambers, say a 500 ft. run of drain with a minimum fall of 1 in 60 = 10 ft. 6 in., commencing at a depth of 12 in. at the highest point below the ground line. 2. The depth of the cultivating tank and the storage reservoir with the fall for the drain between would amount to 9 ft. 6 in. 3. The land to be irrigated should have a fall, however slight, and the subsoil drains, which will be laid about 2 ft or 3 ft. below the ground line, must have a slight fall ; this may be taken altogether at not less than 5 ft. 4. Beyond this a subsidence pond is desirable from which an overflow passes into a stream or ditch ; this may be put at 2 ft. In connexion with this overflow not only must the normal level of the stream be considered, but also its possible rise when in flood. At this point, under some circumstances, it may be desirable to provide a gully fitted with a float valve to check the back flow. The rain-water from the house and the grounds, it is remembered, is dealt with by a separate system, where a less total fall is required. The total of these falls is made up thus : No. 1, 10 ft. 6 in. ; No 2, 9 ft. 6 in. ; No. 3, 5 ft ; and No. 4, 2 ft. ; the total fall being 27 ft In order to economise the fall, most of which is required at the extreme end, it may sometimes be necessary to support the main drain upon a brick wall or embankment, or even upon a stout tressel rustic viaduct, when passing across some depression of the contour line of the ground. Of course, in such cases heavy cast-iron drain pipes would be used.

184. *The Size of the Drain* —It is a mistake to use too large a drain ; one of 6 in. diameter will generally suffice for the requirements of the largest house, a small drain being more readily kept free from deposit

185. The following table[3] from some calculations made by Messrs. W. Santo Crimp and A. M. Bruges shows the inclination to be given to circular pipes flowing full or half full in order to produce a velocity of flow equal to 3 ft. per second, together with the discharge in gallons per minute when flowing half-full.

Diameter of pipe	Velocity per second	Inclination.	Discharge (half-full) per minute.
4 in	3 ft	1 in 62	49 gallons.
6 in.	3 ft	1 in 107	110 ,,
9 in	3 ft	1 in 183	248 ,,
12 in	3 ft.	1 in 269	441 ,,
15 in.	3 ft	1 in 362	690 ,,
18 in	3 ft	1 in 462	993 ,,

In providing for the removal of surface water the following tables are generally accepted, but the great variation in the amount of rainfall in different localities renders it impossible to offer any universal rule in this matter.

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[3] The Builder, August 6th, 1896.

Quantity of Rainfall per Acre.

Inches.	Cubic feet.	Gallons.	Inches.	Cubic feet.	Gallons.
0·1	365·0	2,262	0·6	2178·0	13,573
0·15	544·5	3,393	0·65	2359·5	14,704
0·2	726·0	4,524	0·7	2541·0	15,836
0·25	907·5	5,656	0·75	2722·5	16,967
0·3	1089·0	6,787	0·8	2904·0	18,098
0·35	1270·5	7,918	0·85	3085·5	19,309
0·4	1452·0	9,049	0·9	3267·0	20,360
0·45	1633·5	10,180	0·95	3448·5	21,491
0·5	1815·0	11,311	1·00	3630·0	22,622
0·55	1996·5	12,442			

Provision for Surface Water at Per Hour.

From roofs	0·5 in.
" flagged surfaces	0·2 "
" paved "	0·1 "
" gravel " clay subsoil	0·05 "
" " " gravel "	0·01 "
" grass "	0·02 "

186. *The Old Drains.*—All old internal drains must be carefully traced to see whether they lead to any cesspool and must be removed, together with any contaminated earth. Even external drains should be carefully removed, as they may contribute to the pollution of water.

187. *Made Ground.*—In made ground all pipes must be laid upon a 6 in. bed of concrete.

188. *The Drains under Walls.*—All drain pipes passing through walls must be protected by a brick arch or stone lintel, to provide against fracture from settlement in the house.

189. *The Cellars and Areas.*—Cellar or area drains should deliver over an external gully; in fact, open channels should be substituted for drains in cellars. These channels can be readily kept clean, whereas with drains the traps frequently remain for long periods without being re-charged and the result is that the water either evaporates or smells badly. Where these channels are made to deliver over an external gully in connexion with a soil drain the water from a sink or bath should be arranged to deliver over the same gully, so that the water in the trap may be frequently renewed. An iron grate should also be fixed in the aperture through which the channel passes, to exclude vermin. It generally suffices to allow the small quantity of water from this source to soak away into the ground a short distance from the house instead of being connected into the drains.

190. *Ventilation.*—Long lengths of drain should always be ventilated at intervals by 3 ft. open chambers having half channel bottoms with iron gratings at the ground level; in fact, the closer a drain approximates to an open channel the better. This is very important where the drain is small, say 4 in. or 6 in., for should such a drain run full bore when badly ventilated there is great resistance from the compression of the air in front of the flow due to friction and also owing to the vacuum created behind the charge, and there exists a strong tendency to syphonage in the traps. The main 6 in. drain from the disconnecting chamber must be ventilated on the outlet side of the trap by a 6 in. branch pipe carried to some convenient part of the building and continued up above the roof, either in a 4 in. lead 8 lb. soil-pipe or in a 5 in. stout iron galvanised pipe with caulked leaded joints.

191. *Iron Ventilating Pipes.*—The use of iron for ventilating pipes, unless galvanised, is not to be recommended, as drain air rapidly rusts and corrodes them. In the case of a drain- or soil-pipe this action does not take place, the greasy constituents in the sewage forming a protecting coat.

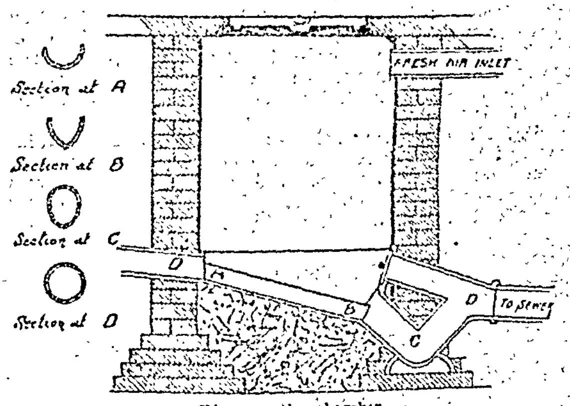
192. *The Surface Water.*—When plans are formed for the treatment of the drainage of a large country mansion an endeavour must be made to reduce as much as possible the quantity of water poured into the soil drain. Apart from the absurdity of needlessly fouling water which has afterwards to be purified the value of the sewage as a manure will be reduced and more land will be required for irrigation. To do this a separate drain must be provided to take the surface drainage from all courtyards, paths, and rain-water overflows round the house and buildings. If possible, avoid crossing these two sets of drains or otherwise bringing them into close proximity, but should it be necessary to cross them the surface water drain must be kept above the soil drain, lest any leakage should occur in the latter at these points and so enter the surface drain.

193. *The Surface-Water Pond.*—Where possible this water should be collected in a pond or reservoir (in this case situated in the kitchen garden); the overflow can be carried into the nearest ditch. A brick disconnecting chamber is to be built at the lower end of the pond, in which is fixed the usual trap and channel, and from which a branch drain is connected into the main drain. A sluice valve or penstock is fitted in the inlet to this chamber. The advantage of this will be fully appreciated not only in the dry season and when it is desirable to give a less concentrated dressing to the land, but also in the winter when the ground is already saturated with moisture. The control of this body of water will also be of advantage for the occasional washing of the storage reservoir of the soil drain.

194. *The Rain-water Drain.*—If the rain-water which falls upon the house is not utilised it must be carried into the surface drain. In any case, even with a cesspool, the surface water must be treated separately. To obviate the necessity of much deep digging it is better to have the highest point of the drain, say, 12 in. below the surface of the ground instead of below the cellar floor. As already mentioned a separate drain should take the waste water from the cellars and areas, carried out in the direction of the slope of the ground and made to deliver over a gully in connexion with the surface water drain or into the nearest natural outlet.

195. *The Soil Drain.*—The soil drain will, of course, be kept entirely outside the house and conducted into a disconnecting chamber (Fig. 21) in the usual way, but in all cases at its extreme end an automatic flush tank should be provided to discharge at least 50 gallons of water every twenty-four hours.

FIG. 21.



Disconnecting chamber.

196. *The Flushing Tanks.*—The flushing tanks must be proportionate in capacity to the length of the drain which they are intended to flush, as, owing to the friction in the small drains now used, in a long drain the initial force of the discharge is soon reduced, the central body of water rapidly passing away in a gradually attenuated stream, while that portion in contact with the pipe slowly follows.

Note P.—In the example given some difficulties present themselves in providing a flushing tank for each head of the two soil drains, terminating as they do at the principal façades of the mansion. Three alternatives offer:—1. To sink the drain some 4 ft. deep in order to allow of flushing-tanks being built below the ground, in which case they might be charged through a disconnecting cistern fixed in one of the outbuildings. 2. By carrying up drains to the higher ground on the north-east corner and there placing the flushing-tanks. 3. By placing the two flushing tanks in the cistern room and bringing down a 2½ in. discharge-pipe from each to deliver over gullies fixed by wall at the head of each drain marked 10 on plan No. 11, the gullies to have large mouths carried up 2 ft. 6 in. above the ground level, with gratings on top. This plan is shown in the example. The waste from sink JJ also discharges into one gully and re-charges the trap, affording an additional protection should the syphon in the cistern fail to act. This precaution, though desirable, is not an absolute necessity.

197. *The Fall of the Main Drain into the Sewage Tank.*—The drain must be laid on a concrete bed at a regular fall throughout. The fall will be regulated by the difference in height between the disconnecting chamber and the sewage tank, which in this case should be capable of holding some 10,000 gallons. If from the nature of the ground it is necessary to make any deviation from a straight line then an inspection chamber must be built at the angle thus made or at any point where a branch drain from the stables or other

buildings may enter it In Rawlinson's "Suggestions" it states that branch drains should have a fall into the main drain at least equal to the difference in their sectional diameter. No branch drain should be connected at right angles with the main drain but should have an inclination in the direction of the fall, with an inspection chamber or eye at *every such junction* Levels must be carefully taken and the trench must be made from end to end before laying the drain, for which purpose the use of sight rails will be found to be very advantageous The main drain should always be first laid and all branches should have a fall at least equal to that of the main drain, if possible a greater velocity should be given in the case of these drains, as it will tend to accelerate in place of retarding the flow at such junctions

198 *The Cultivating Tank* —Just before this main drain enters the cultivating tank (E on plan No 12, also see par 92) another disconnecting chamber must be built with a syphon next to the tank The usual iron cover is to be replaced by an iron grating In addition to this in some isolated spot a long, narrow chamber, 4 ft or 5 ft in length, should be formed in the course of this main drain, the chamber should have a half channel bottom, and the whole be covered with an iron grating This will completely isolate the house from the cultivating tank This tank is made with two chambers, each resting alternately Finally, the effluent passes into a storage or sewage tank F, whence it is passed periodically on to the land either by means of a syphon or pen stock. With the microbe cultivating tank the clear effluent permits of the use of a very much smaller plot of land than would otherwise be allowable The River Pollution Commissioners assume a unit of 2000 persons per acre, but this quantity with crude sewage, unless the soil is in every way favourable, must be considered excessive Where the sewage is in a liquid state from some previous treatment the late Dr Tidy gave from 5000 to 7000 persons per acre Where there is plenty of land available it would be wise to disregard any calculation based upon the above figures and to devote at least an acre of land to every 100 of the population with a due allowance for each animal in the farmyard and stables For the intermittent system the area of land should be divided into a number of compartments, so that the sewage may be allowed to flow on to each part in turn as required If the land devoted to the purpose is on the side of a hill the catch work system is well adapted to the purpose, the water flowing over a succession of made terraces Upon nearly level ground the arrangement shown on the Estate plan No 12 will be found convenient, but in any case the greatest care must be exercised to ensure that the surface over which the water flows is free from all obstruction and that there are no hollows where the sewage can stagnate and spoil the results by the production of rank vegetation The first things to be considered are the subsoil drains (see Estate plan No 12), the depth at which they are laid and their distance apart must depend upon the nature of the soil (see table by Mr Dempsey)

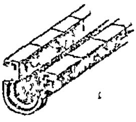
Drainage of Land

Character of soil	Distance of drains apart	Depth of drains
Heavy soils	ft	ft in
Compact tenacious gravelly clay	15	2 6
Stiff adhesive clay	16½	2 6
Friable clay	18	2 9
Free soft clay	21	2 9
Medium soils		
Clayey loam	22	3 0
Marly loam	24	3 0
Gravelly loam	27	3 3
Friable loam	30	3 3
Light soils		
Light gravelly loam	33	3 6
Light marly loam	36	3 9
Light sandy loam	39	4 0
Soft light loam	42	4 0
Sandy soil loam	45	4 0
Light gravelly sand	49½	4 3
Deep gravelly sand	55	4 3
Coarse gravelly sand	60	4 6
Loose gravelly sand	66	4 6

An average depth is about 3 ft 6 in with a distance apart of some 30 ft, and the number of 12 in agricultural drain pipes required varies from about 3000 to the acre in the heaviest soils to about 650 in the lighest The main outlet should be conducted into a reservoir (marked H on plan No 12) in which the effluent water is allowed to subside *before it overflows into the stream which is to receive it* This water, if the irrigation is properly conducted, will be (if not immediately suitable for drinking) very far advanced towards a state of purity

The amount of liquid sewage finally collected is calculated at about 1500 gallons per day, being the maximum probable amount Now each dressing to the land should not be less than about 1 in over the whole surface and this would be equal to 22 622 gallons per acre The plot of about 2¾ acres on the plan is divided into eleven parts of ¼ acre each It will therefore be necessary to collect 6750 gallons, or nearly five days' supply, of sewage effluent in the tank F in order to flood one plot This will allow an interval of a little less than three weeks before it will be necessary to administer a second dressing to any one plot This again will depend upon the number of people in occupation, as a rule the late autumn and winter months are those in which these houses are most fully occupied These being the months during which the ground is most saturated it may be desirable that the amount of land devoted to irrigation should exceed the limit just proposed Of course, the nature of the crop grown on the several plots will determine the question as to how frequently the dressing should be repeated There is a 5 in cast iron pipe carried from the bottom of the storage tank as far as G, where it is fitted with a "Handy-straightway valve" The plots are divided by the main carriers, which are better if fitted with half-round, glazed channel bottoms about 9 in wide (Fig 22) The sides also may, if preferred, be lined with glazed earthenware bricks especially made for the purpose Sluice valves must be fixed at various points in order to divert the stream over each plot as desired or this may be done by simply cutting off the channel by means of a piece of stout sheet iron driven into the earth across the main carriers if these are not lined There are numberless ways in which irrigation can be applied, and the methods will vary according to the situation of the land to be devoted to the purpose Its ready application will frequently tax the ingenuity of the individual adapter, but enough has been said to show that it is a matter of great simplicity and undoubtedly the only way in which all sewage should be disposed of where the water carriage system is adopted With an institution holding a constant resident number of inmates there is less difficulty in regulating the several factors tending to a satisfactory result It is difficult owing to the limited space at disposal to go fully into the varying possibilities of every case, but no insuperable difficulty will be experienced *if the following* points are kept in mind (1) the nature and permeability of the soil, regulating the depth of the subsoil drains; (2) the crops intended to be grown, and (3) the possible amount of sewage and if it is likely to vary to any great extent, together with the probable season of such variation

FIG 22



Main carrier

199 *Drains Under Roads* —Should any drain be laid along or cross under a road precautionary measures must be taken to protect it from damage by heavy traffic

200 *Disconnected Pipes* —All sink and other waste pipes should deliver over half channel pipes before running into gullies

TREATMENT OF BUILDINGS THAT ENVIRON THE MANSION

201 *The Lodges* —Each cottage or lodge to be connected with the system must be treated as a detached house and have a separate disconnecting chamber The bailiff's house and the lower lodge being situated in depressions below the level of the drain outfall, will be treated differently

THE LAUNDRY

202. The drying yard should be turfed throughout and the gullies in the several paths should be connected into the surface drain, for the smaller the area

of ground which is paved the fewer are the opportunities for accumulations of offensive matter. Any foul water falling upon the living earth such as grass land is at once purified, but the same falling upon a paved surface escapes through fissures, under more or less pressure, to the earth below and has to depend entirely upon mechanical action to restore its purity. There need be no drains within the laundry but channels should be provided in order that the floor may be kept thoroughly dry. Square fireclay tubs are considered to be the most satisfactory in every way, but as they absorb a large amount of heat from the water in the first instance there must be a very efficient supply of hot water. External gullies must be provided to take the wastes from these tubs, the drain from which discharges into a disconnecting chamber. A closet is to be formed and fitted in this laundry in all respects the same as closet EE in the mansion but with a white glazed trap, and a separate drain from this closet is connected into chamber having a 3½ in. 10 lb. lead ventilating pipe carried up above the highest point of the roof and clear of all windows. The laundry is divided from the stables by a 14 in. brick wall which runs longitudinally through the building, the rooms on the first-floor being used for drying and ironing. The rain-water falling on these buildings, which cover a considerable area, is collected in the main rain-water tank after passing through a filter. (See Fig. 1.) Provide and fix a 300-gallon galvanised iron cistern in the first floor with overflow through external wall, carry down a ¾ in. warning-pipe to pump.

Note Q.—In cisterns charged by pumps a "warning-pipe" is commonly fixed. It consists of a small pipe connected into the cistern just below the level to which the cistern is to be filled, the other end of the pipe terminating close to the operator at the pump. The operator watches the end of the pipe and the first sign of water escaping warns him to desist from pumping.

Provide and carry to this cistern a 1½ in. galvanised iron rising main from pump. Soft water acts very readily upon lead and iron pipes, so that either galvanised iron or copper tubes must be used for the hot-water circulation to the tubs, copper being the best, as there is always a certain amount of risk of iron-mould to the clothes where iron is used for hot water, even if it is galvanised. (See pars. 10 and 44.)

A copper dome-top boiler is to be set in brickwork with 1 in. copper flow and return pipes carried round the walls of the laundry to a small copper supply cistern which is fixed at the extreme end of the circulation. From the flow-pipe short supply-pipes are brought down to the tubs, these pipes being fitted with horizontal bib-valves. Provide and fix a dead-weight safety-valve to the boiler. Lay on a ¾ in. block-tin or copper pipe for supply to feed the cistern from the cold soft-water cistern. Carry a similar cold 1 in. service-pipe from the same cistern to supply each of the tubs. Carry to this soft-water cistern a ¾ in. lead supply-pipe from the main in the road fitted with a ¾ in. high-pressure ball-valve and screw-down stopcock as a supplemental supply. In addition to the above a ¾ in. short branch pipe is brought off the main and is carried to one of the tubs, being fitted with a screw-down bibcock and having a ¾-in. screw-down stopcock fixed in the service-pipe just above the draw off.

THE STABLES.

203. The stables should be drained with cast-iron channels and covers made to deliver into the open air over a gully. The drains from the water-closets, sinks, gully, &c., will be made to meet in a disconnecting chamber and will be ventilated in the usual way, together with the upper end of the main branch from the sewage tank.

GARDENER'S LODGE No. 5.

204. *Recommendations with regard to the Gardener's Lodge, No. 5.*—The existing open midden in the garden is to be cleared away and filled in with dry ground. Build upon a proper footing in 9 in. brickwork a lean-to building to form a new water-closet, 4 ft. 6 in. by 3 ft., the inside measurement being at the lowest point 7 ft. 6 in. high. Provide a window in the end, fitted with a casement sash measuring 3 ft. by 2 ft. glazed with obscured glass. Provide a ledge door and frame, 6 ft. 6 in. by 2 ft. 6 in., with an oak sill. Form a lean-to roof covered with slates. Form a Portland cement floor laid on a 3 in. concrete bottom. Provide and fix a short flushing rim hopper closet and carry a 4 in. stoneware pipe drain into the disconnecting chamber. Supply and fix a properly hung deal seat. Twice limewhite the closet walls. Supply and fix upon suitable brackets a 3-gallon galvanised iron flushing tank and lay on a ½ in. stout lead branch service-pipe from the slate cistern in the scullery, this being fitted with a ½ in. ball-valve. Continue the short overflow-pipe through the external wall. Lay on a supply to the arm of the closet with a 1½ in. lead service-pipe, properly fixed with cast-lead tacks, from the flushing cistern.

205. *Sink and Supply to same.*—There is a stone sink in the scullery with a brick drain under it leading into the ditch on the other side of the road. A slate cistern (100 gallons) is fixed in the scullery to supply this sink. There is no overflow-pipe, but a warning-pipe (see Note Q.) is carried to a pump fixed over a deep well. This pump is worked by horse power and supplies water for the gardens and farm buildings, being taken to the two last in a water-cart.

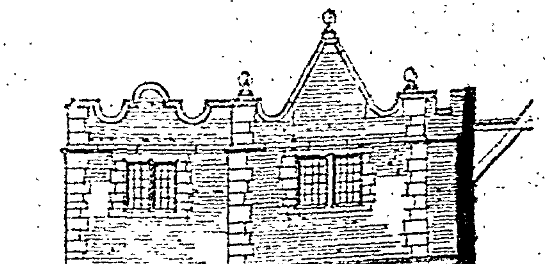
206. *Recommendations.*—Replace the old stone sink by one of glazed stoneware. Provide and fix a 1¼ in. lead syphon trap under it (see Fig. 18) and carry the waste-pipe through the external wall to deliver over a new gully. Disconnect the present supply from the pump and connect into the nearest point of the new main in road a ¾ in. stout galvanised iron service-pipe fitted with a ¾ in. equilibrium ball-valve. Remove the warning pipe and instead carry a 1¼ in. overflow-pipe through the external wall.

THE BAILIFF'S HOUSE.

207. The bailiff's house (No. 6 on plan No. 12) is of much earlier date than the mansion, and is situated in a hollow; the whole of the drainage will have to be dealt with locally; the system adopted will be that recommended by Dr. Poore, which can here be well exemplified.

208. *The Present Arrangements of the Bailiff's House.*—The water-supply is from a well about 60 ft. deep, which is fitted with a windlass and buckets. There are two midden-closets in the garden which are built over a ditch which is dry excepting in times of heavy rain. The sink in the scullery has a short lead waste-pipe connecting into a brick drain, which is carried into a cesspool in the garden. A pan closet on the first-floor landing is connected into cesspool by a 4 in. iron rain-water pipe. The cistern over closet is charged by rain-water from valley gutter of roof with a 3 in. zinc standing waste carried into side of D-trap of closet. There is a supplemental supply to charge this cistern from the pump in scullery. There is a short system of brick drains under the kitchen wing which take water from the brick floors and yard gullies, eventually delivering into the ditch. There is thus an easy communication for rats to the interior of the house.

FIG. 23.



209. *Recommendations.*—The water-closets, bath waste water, and bedroom slops are treated separately, as also is the waste water from the sinks. The present closet in the house, which is connected into the cesspool in the

garden, is to be entirely removed and the walls of the cesspool are to be broken down, the whole being cleared away and the opening filled in with earth. A small annexe is to be built, as shown (Figs. 23 and 24), connected with the main building by a short corridor provided with cross ventilation. The upper portion (Fig. 25) consists of a bathroom and closet with sink, whilst below (Fig. 26) is another closet for the use of the domestics, access being had to the same through the arch supporting the corridor which thoroughfare is thus protected from wet. The illustrations, which are adapted from those in Dr. Poore's book upon Rural Hygiene, will clearly indicate the details. The points to be particularly noticed are the cross ventilation of the lobby to the closet and also of the capacious dry catch; the ventilation of this last is effected by the iron gratings in the wall and by the brick flue at the back of closet (see Fig. 9). The seat of the closet is only 14 in. above the floor line in place of the usual 18 in. This is a very important point, as when the closet is used the dejecta fall perpendicularly instead of being thrown against the pan There are also certain physiological advantages from the position assumed by the user of the lower seat which are absent in the other.

FIG 24.*

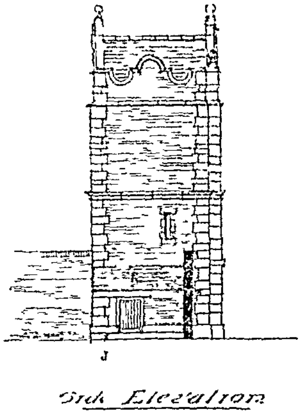
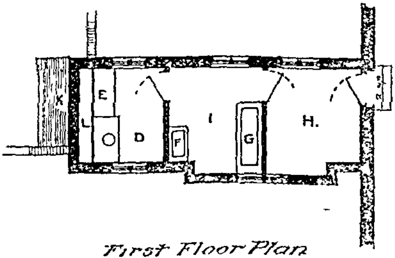


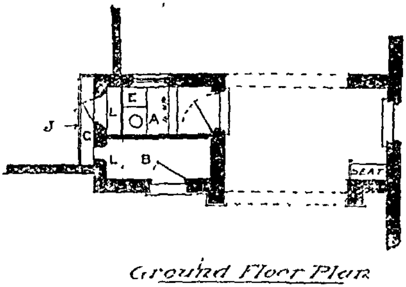
FIG 25.



D, Closet. E, Earth box F, Sink G, Bath. H, Lobby with cross ventilation I, Bathroom K, Lean-to roof to exclude rain from C L, Ventilating shaft open at roof

The pan, which may be constructed either of earthenware or metal, is provided with a straight back and is fitted with a flap-valve which is so adjusted by a counterbalance weight that it permits the excreta and earth to fall at once into the catch below, at the same time excluding any up draught (see Fig. 27). The floor of the catch is cemented and the door to it has a space at the bottom of some 4 in., which is filled with fine wire netting, so that air may freely enter and all small animals may be excluded. One or two shovelfuls of dry "living" earth taken from the surface of the ground are thrown on the floor after each removal of the contents of the catch. (Earth taken from below the surface is dead and exerts no humifying influence.)

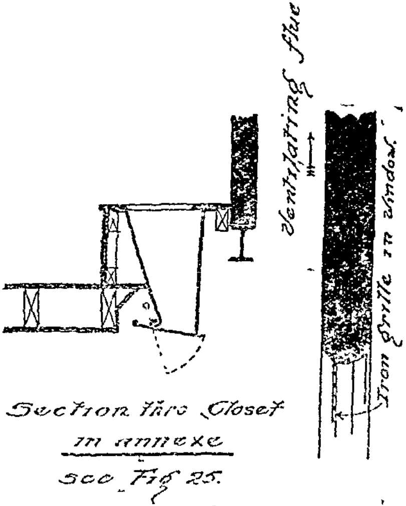
FIG 26



A. Closet for domestics B. Dry catch of upper closet. C, Gutter for urine. E, Earth box J, Dwarf wall round C to exclude surface water L, Ventilating shaft open at roof, sides, and end provided with air spaces

The dry catch has many advantages over the pail system. In the first place, if from any cause the closet should not receive the usual daily attention no evil will result even though it be left for a week, whereas with the pail not only does it become full, but owing to urine being unable to escape and evaporate, it soon becomes offensive. The condition into which these pails have been permitted to fall owing to neglect has in a large measure brought the earth-closet into such bad odour. The large pails used in some places where the so-called dry system is in vogue are at the end of the week in a condition to poison anyone who is unfortunate

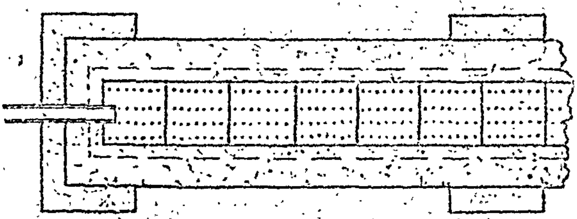
FIG. 27.



enough to come within a yard of one of them. Where the closets are used extensively for micturition a trough must be formed, as shown in Fig. 26, into which the urine will drain. This trough must be filled with sawdust or earth and will only require to be emptied at intervals, varying, of course, with the number using the closet. It is important that rain-water should be excluded. The other midden closets in the garden are to be converted into dry-catch closets.

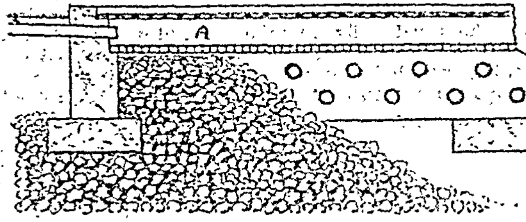
210. *The Bath.*—A short 2 in. lead waste-pipe is to be carried through the external wall, properly trapped and ventilated by a 1½ in. anti-syphonage pipe carried through external wall (see Fig. 18), to deliver over a 2 in. galvanised cast-iron rain-water head the pipe from which is carried on across the arch and down to deliver into a half-round channel gutter which crosses the stable-yard and empties over an evaporating trench or filtration gutter to be described (see Figs. 28, 29, and 30). Dr. Poore objects to the use of any trap under either a bath or sink as forming a receptacle for the development of putrefactive organisms, but it is doubtful if the absence of this trap compensates for the foul air that is then frequently drawn into a room through the waste-pipe in which the fatty matter from the soap accumulates and decomposes, though by keeping this pipe thoroughly ventilated much of this is avoided.

FIG. 28.



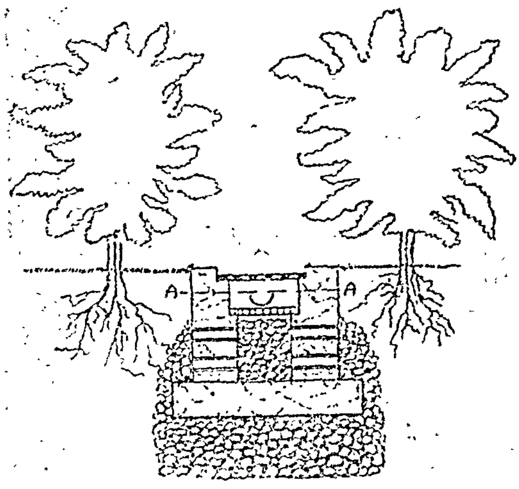
Plan.

FIG. 29.



Longitudinal Section.

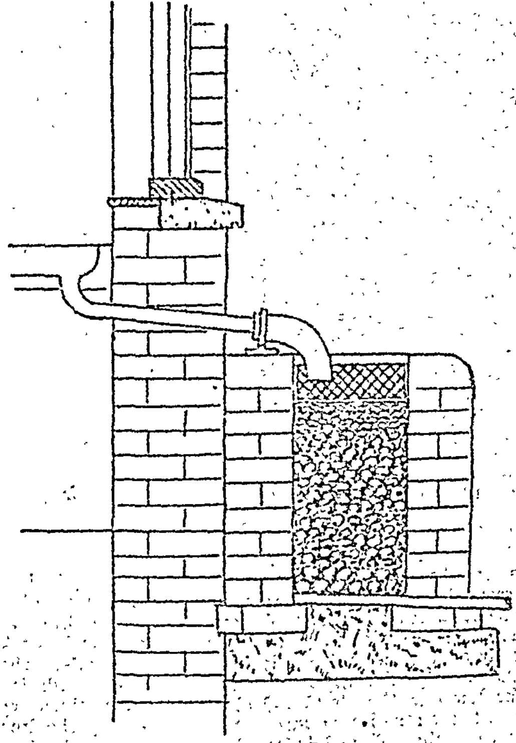
FIG. 30.



Transverse Section.

211. *The Filtration Gutter.*—To receive the slop waste water a trench should be formed on the other side of the stable-yard 15 ft. long, 2 ft. 6 in. wide and 2 ft. deep, the sides being lined with 9 in. dry brickwork or formed in concrete pierced with 2 in. agricultural pipes. This trench is filled to a height of some 12 in. with small stones, which offer a large evaporating surface. The stones may be covered with perforated tiles which permit some of the water discharged upon the surface to flow on and gradually become absorbed. A hedge is planted on either side of the trench which also helps to absorb and evaporate the moisture. If desired the trench may be covered by an open iron grating.

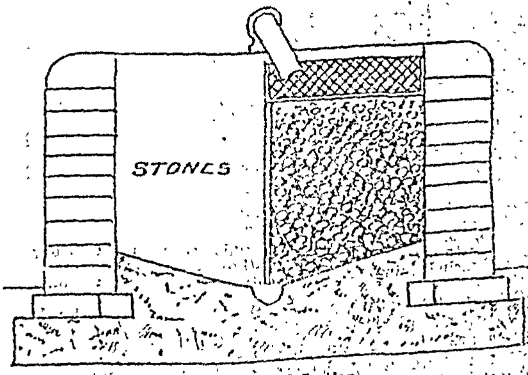
FIG. 31.



Transverse Section.

212. *A Slop Sink* properly trapped and fitted with anti-syphonage pipe is to be provided on the first-floor for the reception of the bedroom slops. The waste-pipe from this sink delivers over an open half-round channel which ultimately connects into the evaporating trench. It is of course unnecessary to insist that the joints of these channels should be watertight excepting those immediately surrounding the house.

FIG. 32.



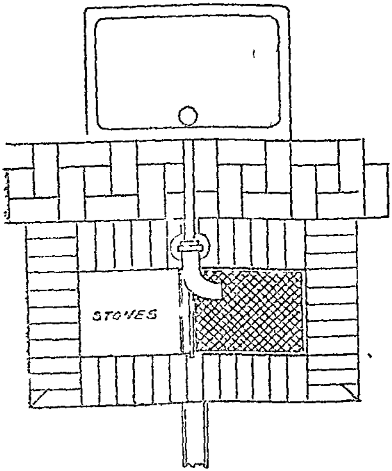
Longitudinal Section.

213. *The Scullery Sink* is treated somewhat differently, in order to keep the discharge from the waste pipe above the ground level it may be necessary to form a raised platform by means of which the sink may be kept up an additional 14 in or 16 in (Fig 31) The waste pipe from this sink discharges over a brick built chamber filled with small stones. This chamber measures about 3 ft 3 in by 1 ft 3 in by 2 ft deep and is divided in the centre by a 1 in slate division; the bottom and the sides of the two compartments thus formed are rendered in Portland cement There is an outlet from each of these compartments into an open channel which is connected with the main system (Fig 32) The actual waste pipe from the sink is fitted with a swing nozzle which permits the discharge to be directed into each of the divisions of the chamber every alternate week, the water from the sink passing first through a wire straining dish, which arrests tea leaves, potato peelings, or any other solid refuse which it is necessary to exclude (Fig 33) The stones in the compartment at rest have to be lifted out and exposed to the air and sun about once a month for one or two days, but they do not require any other attention This system of dealing with a scullery sink waste water has been found to answer admirably in a small establishment but its suitability for a large house or hotel discharging daily large quantities of fat and sand would be open to question unless provision were made to arrest the deposit It is unnecessary to detail the plumber's work in connexion with the water supply which is brought from the main supply to the hydrant situated at the corner of the farm buildings

FARM BUILDINGS

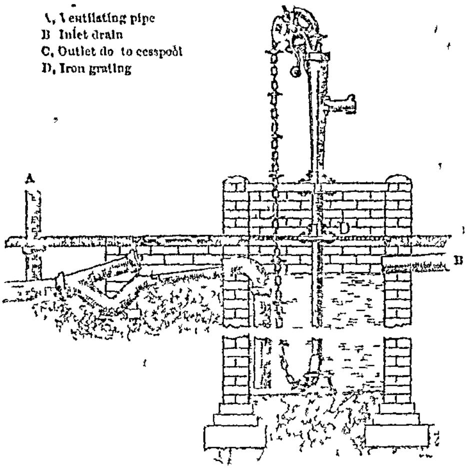
214 The farmyard, or more correctly the stockyard, presents some difficulty to the sanitarian in order to comply with the accepted practice and the requirements of the agriculturist. It is desired that the manure may be trodden by the stock into the straw laid down and the whole mass be intimately mixed This produces a form of manure the effect of which when it is spread upon the land is more readily apparent than is the case where it is used prior to its assuming this rotten condition. It is, however, open to question whether the land receives the permanent benefit that would accrue to it if this manure was placed on it in a less advanced stage of decomposition That the air emanating from these festering heaps is detrimental to the health of the cattle which winter on them cannot be questioned The ground beneath is sodden with moisture and has no period of rest in which aeration might restore it to a condition capable of assisting nitrification, one result being that a large quantity of valuable liquid manure is not only lost but leaks away through the lower stratum of the soil with the chance of polluting any adjacent wells or streams to which it must eventually gain access

FIG 33



Plan

FIG 34



A, Ventilating pipe
B Inlet drain
C, Outlet do to cesspool
D, Iron grating

Manure tank

Milch cows may often be seen standing knee deep in this liquid mess with their udders fouled by the filth, a condition of things by no means pleasant to contemplate The floor of the farmyard, piggeries, and cow stalls should be formed of some impervious material, such as brick, asphalt, or concrete and cement Channels must be made to conduct the surface drainage into a manure tank (see Fig 34) in the yard This tank must not be of a large size, but should hold about 500 gallons and should be fitted with a chain pump so that the contents can be occasionally discharged over the manure in the yard to increase its value or into a cart for use elsewhere This tank must have the sides carried up above the level of the surrounding straw and must be covered by an open iron grate A 6 in overflow-pipe like an inverted syphon from the bottom of this tank is to be carried into the main drain, with a syphon trap fixed close to the manure tank, as illustrated, and a 5 in galvanised iron ventilating pipe is to be carried up from the end of the drain as before described The animals must, of course, be provided with open sheds in which to obtain shelter, but the practice of roofing over the whole of the stockyard in order to exclude rain is not much to be commended as it is apt to confine the emanations from the manure, nor is it necessary where the yard has an impervious bottom and is properly drained The straw yard cannot be looked upon with favour from a sanitary point of view Dr Poore, in his book upon Rural Hygiene, says that the farmer who buries his organic manure *directly it is produced* will lose nothing by waste It will not give off ammonia to the air nor will the juices be washed away by rain to the same extent as when it is left above ground to be a nuisance There seems to be no doubt whatever that all heaps of manurial matter which give off ammonia and other gases to poison the air and perhaps do more serious mischief are allowing valuable matter to escape which ought to be undergoing oxidation in the earth. In fact, for the agriculturist stink means waste. The reasons why farmers allow putrescible matter to fester in heaps appear to be (1) that it has to be kept till the land is clear and circumstances permit of its being dragged to the fields; and (2) that when the matter is thoroughly rotten and most offensive *a more rapid and visible* result is produced, notwithstanding that the total result is probably less than if it had been applied to the ground at once. It is certain that putrescible matter intended for manure must waste more above ground than when buried immediately beneath it.

THE LOWER LODGE NO. 8.

215. The lower lodge No. 8 presents a striking example of the evils of cesspool drainage owing to the water-logged condition of the ground.

216. *Closet.*—There is a water-closet in the back addition which drains into a cemented cesspool, also receiving the waste water from the scullery sink and the rain-water from the roof. The cistern supplying the water-closet is fixed in the scullery, the sink in which is also supplied from the same source. This cistern is filled by means of a pump in the scullery which draws its supply from the shallow well in the garden. The pump is defective and the barrel is too large for the existing suction pipe.

217. *Recommendations.*—The closet, the cistern, and the pump will be entirely removed together with the stone sink. The closet, which is a small lean-to building next to the scullery, will be cemented throughout, including the floor, with Portland cement after the removal of the seat and the present wood floor, and a door fitted in the back wall of the closet under the new seat, which last is raised upon two brick steps and the whole finished as described for the servants' closet AA and BB (par. 144), with the exception of lining walls with tiles.

218. *Cesspool.*—No provision is made for any overflow from this cesspool as there is no place other than the stream into which such an overflow could be carried. The result of this is that the liquid contents escape into the surrounding ground, which is already saturated with moisture. During heavy storms the evil is, of course, more pronounced, the contents of the cesspool overflowing at the top on to the surface. Were it not that the well is favourably situated above instead of below the cesspool—that is, in the opposite direction to the flow of the subsoil water—very serious pollution must have ensued (see par. 31, Fig. 2).

219. *Recommendations.*—The contents of the cesspool must be entirely removed and the brickwork broken up and carted away, the hole being filled in with fresh earth.

220. *The Well.*—Owing to the isolated position of this lodge the water-supply will be taken from a shallow well about 12 ft. deep already existing, but it must be lined with tubes, as described in par. 33, the upper one standing up 18 in. above the ground level. The bottom of this well is to have a 12 in. layer of clean flints or rough stones; on the top of these stones about 6 in. of coarse gravel are placed, then come another 6 in. of fine gravel and 2 ft. of well-washed sharp sand, and, lastly, a few inches of fine gravel are laid to prevent any displacement of the sand by the action of the pump. The normal level of the subsoil water at this point being not more than about 3 ft. below the surface there will always be about 5 ft. of water in the well. Carry upon 4 in. of Portland cement concrete round the outside of the upper tube forming the well 9 in. of brickwork in cement, finished with a course of brick on the edge. Provide a circular wood cover to the top of the well, fitted with iron handles for lifting, and covered with 5 lb. sheet lead dressed down 3 in. all round the rim. The under side of the cover touching the top of the inner well tube is to be packed with a layer of asbestos sheeting so that it may fit closely and prevent the entrance of insects to the well. As the lodge occupies slightly rising ground on the north side of the valley which is drained by the stream and the lake and towards which the subsoil water *flows*, there is no danger of pollution to the shallow well, the soakage being away from it, whilst the depth of the well will not permit the water to be lowered so as to influence the drainage area in the neighbourhood of the soakage trench.

221. *Pump.*—Provide and fix in the scullery a 2½ in. barrel pump, carry a 2 in. stout lead suction-pipe from the same to the bottom of the new well, this pipe being laid in an open-jointed, tile-covered brick channel. This suction-pipe, just where it enters the well, is to be fitted with a lead collar so as to throw off any water that may have run back on the outside of the pipe. *Care must be taken that the hole* through which it enters the well is made quite sound so as to exclude any surface water.

222. *Sink.*—Provide and fix in the scullery an earthenware enamelled sink 2 ft. 6 in. by 1 ft. 8 in. with a 1¼ in. lead trap under the same. Carry the 1¼ in. lead waste-pipe through the external wall so as to deliver into an open channel-drain and provide the usual 1¼ in. anti-syphonage pipe.

223. *Slop-sink.*—In the external corner by the scullery door form on a concrete bed an enclosure constructed with blue Staffordshire bricks laid in cement, measuring 18 in. by 18 in. and 12 in. high, built in 4½ in. work and finished with half-round bricks on edge on the top, with the interior sloping into a half-channel bottom. Continue this channel to connect with that from the sink. This enclosure is to form a receptacle for the bedroom slops, which must not be thrown into the scullery sink. If the rain-water is not to be utilised the rain-water pipes can deliver into open channels connected with those already mentioned. The outlets from these channels are to be carried in a direction opposite to the well and are to be turned into a filtration gutter some 10 ft. long (see par. 211). By the side of which gutter a hedge is to be planted which will be found to assist evaporation greatly.

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at present holds, and when we reflect on the extremely unsatisfactory nature of our conceptions of the things which we name atoms and molecules and of the forces by which they are affected, and also on the wonderful variety in composition in structure and function of living animals, the physiologist may bear with equanimity the gibe cast upon him by the physicist and the mathematician that his subject has not yet risen to the rank of a science Professor Verworn, after giving a short but excellent history of physiology, discusses the question of vitalism and a vital force Are the phenomena which present themselves to our observation in living beings, he inquires, the effects of known forces, as chemical affinity, light, heat, and electricity acting on the atoms of matter, or do they require for their explanation the admission of a "vital" force differing from, though perhaps correlated with, those forces? The idea is an old one and has been often controverted but as often reappears; it is admitted indeed that many of the phenomena are explicable upon physical and chemical principles, but there still remain many phenomena which at present apparently call for other principles and seem to follow other laws Consciousness, for example, cannot be explained by what we at present know either of chemistry or of physics, nor are we as yet sufficiently advanced to express in symbols the exact composition of a living cell and we recognise only with difficulty the difference between dead and living protoplasm, we recognise it indeed not by any difference in its chemical or physical characters but, as Pflüger pointed out, by the fact that "the atoms of the dead proteid molecule are in a condition of stable equilibrium, while the living proteid molecule possesses a very labile constitution" As might be expected in a work on general physiology, protoplasm, or living substance, its forms, activities, and attributes, are given in great detail Here and there, indeed, statements are made which require some modification, as in the remark that in the tissues "every individual protoplasmic territory which belongs to a nucleus is sharply separated from all the rest," whereas it might be more correctly maintained that in many cases each cell is by means of protoplasmic processes both in animals and plants in direct continuity with the rest Protoplasm the author holds to be a fluid and he gives one more to the already numerous definitions of life—viz, that it consists in the metabolism of proteids.

The Phenomena of Motion are grouped together and treated in a very interesting manner by Professor Verworn He begins with the consideration of Brownian movement which he regards as of a passive nature and due to the constant slight impulses of the molecules of the surrounding liquid upon the small light bodies suspended in it This is followed by an account of the movements caused by swelling of cell walls, as is seen in the resurrection plant (Selaginella lepidophylla), the rose of Jericho, the seeds of the cranesbill, and the elaters on the spores of the horsetail He goes on to describe the movements due to changes in cell turgor consequent on osmosis which are to be seen in many plants, then come movements from change of the specific gravity of the cell, as in numerous low forms of pelagic life which seem to have the power of suddenly eliminating a tiny bubble of carbonic acid gas; then there are the movements associated with secretion, as in the desmid Closterium which discharges a slimy substance from one extremity of its body by the aid of which it creeps or glides; then come the movements due to growth as in the seeds of the impatiens, and, finally, there are the movements effected by contraction and expansion of the cell body, including amœboid, ciliary, and muscular movements, to which Professor Verworn has, it is well known, devoted much attention He also, although under a different heading—namely, that of Stimuli and Their *Actions*—gives an interesting account of the effects of long-continued stimulation upon the microscopic appearances of muscle and nerve, illustrating these effects by references to the observations of H. M Bernard on bluebottle flies, some of which were allowed to remain at rest, whilst others were stimulated till they were exhausted, and those of Hodge on the ganglion cells of the sparrow as they appear in the morning and at night.

Many of the subjects discussed are either altogether passed over, or are only noticed in the most cursory manner, in the ordinary text-books, such, for example, as the Origin of Life, the Question of Physical Immortality, and the History of Death. In regard to the origin of life the author considers in detail the doctrine of spontaneous generation, the theory of Cosmozoa which holds that the first life on the planet was brought by meteorites, removing the difficulty backwards by one step only, for the question immediately arises, How did it make its appearance in them? the hypothesis of Preyer to the effect that the idea of living substance having been at some time derived from lifeless substance may possibly be a false assumption and that the question to be asked is rather, Has lifeless originated from living substance? In contrast, therefore, to the doctrine of spontaneous generation Preyer puts forward the idea that living substance is the primary thing and that lifeless substance is derived from it secondarily by excretion "Whoever," Preyer says, "interrupts the *series of successive* generations of organisms by the introduction of a generation without previous parentage is arbitrary. *Omne vivum e vivo* is a proposition which has never experienced an exception" These views are, however, more or less fanciful and scarcely commend themselves to common sense Professor Verworn himself seems to favour the more suggestive utterances of Pflüger, who contends that the beginning of life is in remote times and is to be looked for in the formation of cyanogen For belief in this he points out there are numerous reasons In the first place cyanogen and its compounds, such as potassium and ammonium cyanide, hydrocyanic acid, cyanic acid, &c, arise only in an incandescent heat Then cyanogen is a radical possessing a great quantity of internal energy. Cyanic acid, a product of the oxidation of cyanogen HONO, possesses great similarity to living proteid. Both cyanic acid and living substance grow by polymerisation, by *chemically combining* similar molecules like *chains into masses.* Both bodies in the presence of water are spontaneously decomposed into carbonic acid and ammonia "Both afford urea by dissociation; that is, by intra molecular rearrangement, not by direct oxidation Finally, both are liquid and transparent at low temperatures and coagulate at higher ones, cyanic acid earlier, living proteid later." This similarly is so great that cyanic acid may be termed a half living molecule Pflüger observes. "When we think of the beginning of organic life we must not think primarily of carbonic acid and ammonia, for they are the end of life and not the beginning." In concluding our remarks here we do so not because there are not many topics of interest to which attention might be directed but because our space is limited and we should like our readers to read the book for themselves and from it they will, we are sure, derive both pleasure and instruction

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A Clinical Text book of Medical Diagnosis for Physicians and Students By OSWALD VIERORDT, M D, Professor of Medicine at the University of Heidelberg Authorised Translation, with Additions by F. H. STUART, M D. Fourth American Edition from the fifth German With 194 Illustrations London The Rebman Publishing Company 1898 Pp 603 Price 24s

THE earlier editions of this work are probably known to many of our readers. The fact that five editions have been called for in nine years is sufficient proof that the efforts of the author have met with the success which they deserved Dr. Vierordt is remarkable for his powers of observation and the facility with which he places his conclusions in the form of words. The present volume is replete with numerous valuable facts and suggestions to aid the student and the medical practitioner in the examination of patients.

Every part of each subject is dealt with in the greatest detail. The introductory remarks on taking the history of the case, for instance, show the thoroughness with which every point has been considered. The conclusions which may be arrived at from a "general examination" of the patient are also well given, especially the remarks on the varying conditions of "the skin and subcutaneous cellular tissue."

The author writes with particular clearness on the Examination of the Respiratory Apparatus. It is very difficult to express in words the pathological sounds and signs which are encountered in percussing and auscultating the chest, but a careful study of Dr. Vierordt's remarks will greatly aid the student in understanding the alterations from the normal in both methods of procedure. No book can, indeed, take the place of practical instruction in percussion and auscultation, but at the outset of his medical studies the student frequently becomes confused owing to the numerous new terms with which he is confronted and needs some book such as the one now under consideration to help him to fully understand what he has heard from his instructors at the hospital. Unfortunately the nomenclature of physical signs is by no means determined, the numerous synonyms being differently employed by physicians. It is to be regretted that the report issued by the members of the committee appointed at the International Congress of London in 1881 to draw up a uniform nomenclature of physical signs in the diagnosis of diseases of the chest has not been more generally adopted.

The chapter on the Examination of the Circulatory Apparatus contains a vast amount of information; the description of the variations in the rhythm and character of the heart sounds is facilitated by some simple diagrams. The examination of the blood is particularly well described and a mass of detail, interesting to an expert but of little value to the practitioner, has been wisely omitted, but sufficient is inserted to enable the student to make a full investigation of the blood in the various forms of anæmia and to recognise the malaria parasites.

The modern requirements of the examination of the digestive apparatus are met by full directions as to the chemical and microscopical analysis of the digestive juices. Great stress is laid by some observers on the importance of such examinations, more particularly the chemical. Considerable discomfort is thereby caused to the patient, but it is open to doubt whether the more exact knowledge which is claimed to be thus acquired will materially alter the treatment hitherto adopted after an ordinary examination of the patient with due attention to the clinical history. We believe we are correct in saying that the use of test meals and the frequent passing of the stomach tube required for the purpose have not found much favour in this country.

The chapter on the Examination of the Urinary Apparatus is also marked by the judgment exercised on the selection of the chemical processes required. Only a few tests are given for the detection of albumin and sugar but they are the most reliable and they can confidently be employed in general clinical work.

We consider that the directions for the examination of the nervous system form one of the best chapters in the book, especially that part of it which deals with electrical tests. This subject is a very difficult one for students to grasp, but the author explains in clear terms what should be observed in determining the electrical reaction, especial stress being naturally laid on the reaction of degeneration and the myotonic reaction. In future editions we would suggest to the author that he should enter into rather more detail as to the existence or absence of the knee-jerk, pointing out the diagnostic knowledge thereby attained in differentiating between organic and functional diseases. The book is well produced, the type, illustrations, and binding being everything that could be desired.

Manual of the Diseases of Children. By JOHN MADISON TAYLOR, A.M., M.D., Professor of Diseases of Children, Philadelphia Polyclinic; and WILLIAM H. WELLS, M.D., adjunct Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic. London: H. Kimpton. 1899. Pp. 720.

THE authors tell us that their aim in writing the book has been "to present in a clear and concise manner the chief points in the description, differentiation, and treatment of diseases of children" and they have carried this out most successfully. They have kept to their text—Diseases of Children—and have not padded their book out by unnecessary descriptions of adult types of disease—a temptation to which writers on the subject are very apt to succumb.

There are excellent accounts of the growth of infants and of their various organs followed by a very clear exposition of the principles of infant feeding. Where artificial feeding is necessary the authors follow Rotch in their recommendations and give full instructions for the modification of cow's milk, so that any desired percentage of proteids, carbohydrates, and fats can be obtained. The section on Diseases of the Alimentary Canal, so important in the first two years of life, is full of sound teaching and apt hints on treatment. It is the best section in the book. In America tuberculous peritonitis, if the statements in the book are correct, appears to be much less amenable to medical treatment than it is in this country.

A word of praise must also be given to the section on the Exanthemata, which gives briefly but very clearly the essential points in connexion with the diagnosis and clinical course of infectious diseases of children. The book concludes with practical directions as to diseases and accidents requiring surgical procedures.

We can heartily congratulate the authors on their work. Although containing little that is novel it is so well arranged, clearly written, and devoid of padding as to form one of the best books for the use of the student and the practitioner.

The Throat and Nose and their Diseases. With 550 Illustrations in Colour, mostly designed and executed by the author, LENNOX BROWNE, F.R.C.S. Edin., Senior Surgeon to the Central London Throat, Nose, and Ear Hospital; with special assistance as follows:—Anatomy: MAYO COLLIER, M.S. Lond., F.R.C.S. Eng.; Nervous Diseases: JAMES CAGNEY, M.D. R.U.I.; and Histopathology: WYATT WINGRAVE, M.R.C.S. Eng., Assistant Surgeon and Pathologist to the Central London Throat, Nose, and Ear Hospital. Fifth edition, revised and rewritten. London: Baillière, Tindall, and Cox. 1899. Large 8vo. Pp. xxxii and 968. Price 31*s.* 6*d.* net.

IT might be thought that little need be said on the appearance of a fifth edition of a work which first saw the light more than 21 years ago, but there are several features in the present issue which certainly deserve to be mentioned. The book itself has grown in volume in spite of the expenditure of much care to keep it within its former dimensions. One feature of this edition is the presence of "special assistance" from various writers on certain subjects. Thus the chapters on the Anatomy of the Nose, of the Pharynx and Fauces, and of the Larynx have been revised by Mr. Mayo Collier; the chapter on the Nervous Diseases of the Larynx has been written by the late Dr. James Cagney; and the sections on the Normal and Pathological Histology have been contributed by Mr. Wyatt Wingrave. These are useful additions and materially increase the value of the work. The whole work has been carefully revised and is fully abreast of the knowledge of to day There are 417 illustrations in the text and these are all printed in coloured ink; this is distinctly an advantage in the diagrams representing microscopic sections, as a clearer idea is given of the object, but we fail to see the utility of the colouration in the diagrams, which only represent instruments There are 15 coloured plates representing chiefly diseases of the pharynx and larynx These are hinged and can be opened out so as to lie beside the book during the perusal of the whole of the chapter descriptive of the disease illustrated These and the other illustrations are deserving of praise

Analytical Records

FROM

THE LANCET LABORATORY.

CARBOLIC ACID SOLOID

(BURROUGHS WELLCOME, AND CO; SNOW-HILL-BUILDINGS, E.C)

PURE carbolic acid is ever in request and any method therefore which adds to its more convenient use in practice is acceptable Such is the aim of the carbolic acid soloid containing 60 grains of the pure crystalline acid With a stock of these the practitioner can readily prepare antiseptic solutions of definite strengths Moreover, this stock may be carried in the smallest possible bulk The carbolic acid soloids are of about the size of a shilling and about a third of an inch thick They are quite distinctive in shape and colour, while when dissolved in water they yield a bright green fluorescent fluid, the fluorescent colour being characteristic of uranine These steps are taken in order to avoid the possibility of a mistake being made Carbolic acid soloids are also to be obtained which contain 20 grains of the pure acid

JOHANNIS NATURAL MINERAL WATER (LITHIATED)

(THE APOLLINARIS CO LTD 4 STRATFORD PLACE, OXFORD-STREET W)

Johannis water contains naturally, according to our own analysis, traces of lithium salts but hardly to any important amount medicinally The well known solvent action of lithia on uric acid has prompted the idea of adding, as is stated one grain of lithium bicarbonate to each pint bottle of Johannis water We agree that a natural mineral water is a good method of administering lithium salts but we do not think that such a small quantity as one grain per pint is likely to afford any special benefit. According to our analysis, the quantity of bicarbonate of lithium added was 0 98 grain per bottle The B P dose of the normal carbonate is from three to six grains in three or four ounces of aerated water This is equivalent to from five and a half grains to 11 grains of the bicarbonate

NEW VINOLIA PREPARATIONS

(VINOLIA CO LTD MALDEN-CRESCENT N)

We have always found on analysis of the Vinolia preparations a plain indication of the choice of the purest materials in their elaboration The preparations before us show no breach of this rule Losaria Peau d'Espagne Soap for example, was found to be absolutely free from alkaline excess and from other injurious constituents It is very delicately perfumed and contains the highest possible proportion of pure soap The shaving soap submitted showed similar results Preparations which we also examined with equally satisfactory results were smelling salts Fuller's earth toilet scent known as 'Liril,' Violette de Parme and toilet powders The latter possess the very desirable quality of a powder intended for application to the skin—namely, a highly comminuted state They contain a mild antiseptic

HAY'S INVALID FRUMENTINE

(HAY'S FLOUR MILLS GROSVENOR STREET HULL.)

As we have previously pointed out, this food is prepared on correct dietetic lines, since care is taken in its preparation not to eliminate valuable food principles, proteids, carbohydrates, and mineral constituents, but rather to retain them as far as possible in a digestible condition The preparation has recently been further improved By careful cooking and treatment with active malt the carbohydrates, and doubtless the proteids also have been reduced to an increased digestible state The preparation affords a very palatable and nourishing food

VIBRONA MALT

(FLETCHER FLETCHER AND CO, 469 HOLLOWAY ROAD N)

According to our experiments this is an active fluid preparation of malt containing in each fluid ounce 10 grains of cinchona in the form of neutral hydrobromate We found the preparation to be exceedingly active in digesting starch emulsion The taste of the malt which is pleasant, appears to mask the bitterness of the cinchona compounds According to its composition this preparation should possess distinct tonic as well as nutrient qualities It should be useful where the tonic properties of cinchona bark are indicated for children As is now well known cinchona in the form of hydrobromate avoids "cinchonism"

ELIXIR PHOSPHORI (HORN)

(O T HORN GLENDOWER, BOURNEMOUTH)

This is an aromatic syrupy liquid which is said to contain one fiftieth of a grain of pure free phosphorus per drachm It is miscible with water and compatible also with certain iron and quinine preparations From the results obtained on extraction with carbon disulphide we are able to confirm the statement that the phosphorus occurs in the pure elementary state of the yellow variety We note that it is stated on the label that the contents of the bottle must be used only for dispensing prescriptions of medical men Phosphorus is a well known nervine tonic and the solution under analysis is doubtless well suited for its administration. It is said also that phosphorus is useful in preventing the falling off of hair In any case it should not be administered indiscriminately but rather with caution

MOUILLA LIQUID SOAP (TEREBENATED)

(S MAW SON AND THOMPSON 7 TO 12, ALDERSGATE STREET E C)

Liquid soap is extremely convenient to use A few drops placed on the palm of the hand with a little water yield almost instantly on rubbing a pleasant and agreeable lather It is powerfully cleansing and without injurious effect upon the skin as long as there is no alkaline excess There is no alkaline excess in Mouilla liquid soap according to our experiments We should like to see the use of liquid soap more extended in the practice of medical men, since it should afford an excellent vehicle for antiseptics Thus it should be compatible with the solution of iodide of mercury in potassium iodide the compound forming a very powerful and convenient antiseptic Potash soap gives the impression of being a more powerful detergent than soda soap It cleanses the hands more rapidly and leaves a pleasant, cleanly feeling

DIABETIC CAKE

(J GABOR AND CO, 93, WALWORTH ROAD S.E., AND 2, TIDY-STREET BRIGHTON)

The composition of this cake is based on well known lines in accordance with the requirements of diabetic patients It contains a minimum of starch or other carbohydrates It is prepared from almond flour, the flavour being "nutty The cake is somewhat heavy and greasy, the smell of the oil present suggesting cocoanut While it is true that this cake is practically free from starch and on that account is adapted for the diabetic patient we doubt whether it is easily digestible

THE LANCET.

LONDON: SATURDAY, MARCH 4, 1899.

WE publish this week the result of an exhaustive inquiry which we have made into plumbers' work in its relation to water-supply and sewage disposal in rural districts. This report is supplementary to the Report on the Relative Efficiency and Cost of Plumbers' Work which we published on July 4th, 1896, and no one can read it without feeling how absolutely necessary it is for the safety of the community that the plumber should belong to a body known to possess a certain standard of knowledge.

The memorial recently presented to the Government praying them to deal with the registration of plumbers in the present session points out that while the proper qualification of medical officers of health and of sanitary inspectors has been provided for under the Public Health (London) Act, 1891, the qualification of the men whose intricate work they have to control, and upon the due execution of which so much depends, is left to chance. The memorial is signed by over 60 Members of Parliament, including many names of high repute. Another memorial has been sent to the Local Government Board signed on behalf of the Parliamentary Bills Committee of the British Medical Association, the Manchester and Salford Sanitary Association, the Royal Institute of British Architects, the National Health Society, the Royal Institute of Public Health, and the National Association of Master Plumbers of Great Britain and Ireland. Yet another memorial has been presented to Mr. Chaplin on the same subject signed by the mayor, the sheriffs, and the Bishop of Lincoln and by all the public, medical, and sanitary officials of that city with others interested in the question. This list of memorialists surely shows that many of those best able to judge of the matter are convinced of the necessity for additional legislation.

The evil that has to be combated is hydra-headed; deaths from diseases directly or indirectly attributable to defective sanitary surroundings and polluted water-supplies are numbered by thousands annually, and yet represent but a small proportion of the suffering arising from such causes. The plumber, the man who dominates that unseen world in which for our good or evil his works lie concealed in many a tortuous fold, is the man who must be educated and controlled. While we should welcome with satisfaction any measure to ensure a higher standard of technical and practical ability in the operative plumber, registration touches but the fringe of the question and this alone will not suppress the evils arising from defective work. We are apt to forget that while great advances in intelligence and education have been made by all classes during the past generation (the plumber not excepted) human nature is, and some think always will be, much where it was. Regrettable as it may be, an improvement in conscientiousness has not synchronised with the advance of education. Something more than a knowledge of right is required, and the wrong-doer must be coerced. The spirit of the times, the rage for cheapness (call it necessity or avarice, the result is the same); this it is that rules the market. Though it is satisfactory to know that men exist in plenty who would scorn to execute work at the behest of an employer knowing it to be faulty in conception or base in practice, yet there are many who would entertain no such scruple. It is not so much in the houses of the opulent and of the middle-class that defective work is flagrant (though many of these are in evil plight), as it is in the crowded town and suburban dwellings of the labouring classes and of the poor. Into these tenements, which spring up in a night like mushrooms the country through, swarm a half-cared-for population before the water used in the construction of their homes has evaporated from the plaster and bricks. It is here, where the plumber's work is sublet at from £5 to £10 per house, that every evil is rampant. How will registration alone touch the callous men who prostitute their abilities to do such work as this? The question is not one of the better class of plumbers and of those interested in their work desiring registration. Of course they desire registration, but the new legislation is not needed in their behalf. It is the public who require protection, not only from ignorance but from fraud.

To accomplish this should be the object of a short Act the broad provisions of which we may indicate without having the appearance of meddling with matters without our scope:—

(1) The men must be examined and registered by a competent board of examiners and afterwards granted an annual license.

(2) The holder of the license must be made directly responsible for his acts to the local sanitary authorities in whose district he is at the time working and his number must be registered in connexion with each individual house. It would be the business of the local authorities to report any dereliction of duty to the governing board. The board would, as they might see fit, mark or suspend the license.

(3) The vested interests of all existing plumbers would, of course, be respected, but all should be licensed, though in their case registration need not be compulsory. They must also be made responsible to the local sanitary authorities.

Some such measure would, we venture to think, in a comparatively short time greatly improve the standard of the work executed. It would not only insure the householder against the results of ignorance and incompetency, but it would to some extent eliminate fraud, under which inferior material or defective construction is substituted for sound work by the unscrupulous employer in order to enable him to undersell his more conscientious competitor. Its chances of becoming law, provided the Bill were promoted by the Government, are excellent. Each of the private Bills promoted by the Company of Plumbers was read a second time and each received the support of members of all shades of opinion in the House, so that the movement is neither a controversial one nor one that need be made from a party standpoint. It was rather apathy than opposition that blighted the early promise of a useful future presented by these private Bills and the apathy is at the first glance difficult to understand. It might be thought that the increased security which the Bills offered, or sought *to offer*, to the public would have been acceptable, at any rate in principle, to all Members of Parliament. Yet no one seemed to care about the registration of plumbers or to think it necessary to urge the measures upon the attention of the House. Why? Curious as the reason may sound, we believe fear of ridicule to have played its part in this neglect of an important matter. There is a certain atmosphere surrounding the plumber which prevents him from being taken seriously, unless indeed calamity ensues from his operations—the "something immejit" of Mr. ANSTEY's excellent story. To be very earnest about a subject which others find comic requires considerable courage. But such courage should not be wanting. The subject is not comic. It is serious, deadly serious in its public health aspects, and we hope that the current session will see it treated with the gravity and earnestness which it merits.

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THE recently issued report of the Departmental Committee appointed to inquire into the manufacture and use of water gas and other gases containing a large proportion of carbonic oxide is of considerable medical interest. Water gas, a mixture of hydrogen and carbonic oxide produced by passing steam through heated coke or anthracite, is an odourless and non-illuminant gas. For public lighting purposes it is "carburetted"—that is, enriched by hydrocarbons derived from oil. The resulting carburetted water gas smells much like coal gas; its candle power is greater; owing mainly to the small amount of labour required in its preparation it is on the whole cheaper to make than coal gas; and it has the additional advantage of possessing what the Committee call an 'emergency' value. Unexpected increase in the demand for gas, as by continued fogs, can at once be met by rapid gas manufacture, whereas with coal gas it is necessary to draw upon storage.

In many large towns of America carburetted water gas now forms the whole, or nearly the whole, of the municipal gas supply. In Great Britain a gas-supply consisting solely of carburetted water gas so far has been provided only in a few localities and for limited periods. But carburetted water gas is often employed for mixing with coal gas. A half and half mixture, for instance, is ordinarily used at Tottenham and Edmonton; gas at Birkenhead has occasionally contained as much as 64 per cent.; and gas in the northern part of London usually contains some 33 per cent. of carburetted water gas.

The danger of carburetted water gas lies in its containing about 30 per cent. of carbonic oxide, which in coal gas is present to between 4 and 12 per cent. only. In considering this danger the Departmental Committee put on one side all questions of injury to health from constant exposure to small leakages of gas of either sort. For illness thus produced apparently, in their opinion, carbonic oxide is not responsible. They "do not think that the existence of anything like chronic poisoning by carbonic oxide has been established." Hence their inquiry has virtually been limited to considering what is the proportion of carbonic oxide which may be allowed in an illuminating gas consistently with reasonable security against fatal result when the gas has been inhaled in relatively large quantities as, for instance, when a gas burner has been accidentally turned "full on" in a sleeping room. The danger from this sort of accident when all the gas is carburetted water gas cannot be regarded lightly in view of the evidence accumulated in this report. Dr. HALDANE, one of the Committee, points out that in the case of Boston, where 90 per cent. of the gas is water gas, about one in every 300 deaths is due to accidental poisoning by water gas. And in this country during the short time that carburetted water gas was supplied pure in a certain district two persons were killed and five were made seriously ill. Moreover, the Committee insist, very rightly, upon the risk that this gas might become a ready instrument of suicide and homicide. "The facility with which murder (particularly child murder) bearing all the appearance of accident, could be committed by simply turning on in a small room a jet of gas containing a large proportion of carbonic oxide, seems to us to afford an additional reason for restricting the use of carburetted water gas."

The most important of the recommendations of the Committee, to which they urge that effect should be given by Act of Parliament, consists in their advocacy of a statutory limit of 12 per cent. of carbonic oxide in any illuminating gas. In special local circumstances of pressure and the like, however, they consider that a maximum limit of 20 per cent., which would permit a mixture of equal volumes of coal gas and water gas, might be allowed. As the danger is principally to persons when asleep they point out that these statutory limits need only be imposed in the case of gas supplied at night.

The limits suggested have been arrived at in consideration of a valuable series of experiments by Dr. HALDANE upon the proportions of carbonic oxide in the air of rooms into which coal gas escapes. The basis of his experiments is the assumption that no serious danger to man arises from several hours inhalation of air containing carbonic oxide in less proportion than 0·2 per cent., and, which by the way is much more certain, that a proportion between 0·2 and 0·4 per cent. is dangerous to life, while over 0·4 per cent. may cause death rapidly. The amount of escaping gas being constant and the cubic capacity of the room experimented upon being known, the question whether or not with a gas containing a known proportion of carbonic oxide the dangerous percentages will be reached becomes one of the ventilation provided. There are, however, few reliable data as to the frequency with which the air of an ordinary "stuffy" bedroom is changed. Dr. HALDANE's experiments add materially to our knowledge on the point. It is interesting to find that his results are in accord with those of PETTENKOFER in the worst case which has to be considered in this connexion—that of a small room with door, windows, and all other openings closed. A much larger amount of air often passes through such a room than at first would seem possible. In a completely closed room of 1000 cubic feet, for example, Dr. HALDANE estimates that the maximum time needed for the entry of a volume of air equal to that of the room is less than two and a half hours. It must, however, be remembered that diffusion of air in this way through walls, floors and ceiling is directly dependent upon the difference of temperature between the air of the room and the air outside. As providential diffusion of this sort cannot always be reckoned on to come to the aid of persons exposed to poisoning by gas the Committee have, we think, done well to advise the restriction of carbonic oxide in ordinary gas-supplies to proportions which are not likely often to do serious harm even when escape takes place into a room which is practically unventilated.

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THE effect of MR. BALFOUR'S London Government Bill on medical officers of health in London will be to add to their labours and responsibilities. They will be directly concerned in the administration of the law relating to dairies, cowsheds, milkshops, slaughter-houses, and knackers' yards, to say nothing of the law relating to noxious trades and common lodging-houses. Thus they will be placed in a position similar to that of the medical officers of health of other urban authorities, except that cowsheds, slaughter-houses, and knackers' yards will not be licensed by the suggested municipalities but by the London County Council. The business of a slaughterer of cattle and all noxious trades when established anew will require the sanction of the County Council as heretofore and not that of the new authorities, and all regulations and by-laws will still be made by the County Council. This is, we think, a wise division of duty and one which should work for uniformity of procedure. Perhaps a more irksome duty will devolve on the County Council than before, for they are to be held responsible for the sufficiency of action of the several authorities in respect of their new duties by being given power of supervision over a defaulting authority. It is obviously much easier to institute the necessary proceedings against a careless cowkeeper or butcher than to persuade or coerce an authority which has its own views to take the necessary proceedings. In short the work of the medical officers of health of the district authorities will be added to, and the anxieties of the medical officer of health of the county of London are increased under the Bill.

The proposed changes, however, are obviously in the right direction, although a strong case can be made out for the desire of the County Council to retain the administration of the common lodging-houses until provision has been made for the annual licence of such premises by the Council. This power has already been given to local authorities in Scotland under the recent Public Health (Scotland) Act and is certainly more necessary in London than in Scotch towns. While the duties of medical officers of health in London districts will be thus increased in many districts the area for which they are appointed will be added to. The 45 districts in London will probably be thus reduced to some 30, and this increase in responsibility and work should not be lost sight of. London especially needs capable and zealous medical officers. If there is failure on the part of the officer of a district authority in the provinces that district is probably the only sufferer, but if there is such failure on the part of the officer of a London district neighbouring districts may also suffer, whatever may be the vigilance of the officers of the County Council. There is urgent need that London should have good medical officers, and the only way in which this can be assured is by the payment of salaries adequate to secure men of sufficient ability and influence. We earnestly hope that this point will be considered in any appointments which are made as the result of the passin of the London Government Bill.

We are not now concerned in considering whether the districts to be constituted under the Bill will be of convenient size for the purposes of sanitary administration, although we note with some surprise that the Bill suggests that they may have populations as large as 400,000 inhabitants. There are other points in the Bill to which we may have to refer later, but on the whole we consider that it is a measure in the right direction, although it obviously provides only partially for the changes which must inevitably be effected in the future.

Annotations.

"Ne quid nimis."

INCIPIENT INSANITY.

THE satisfactory treatment of patients suffering from incipient insanity or of those in whom the diagnosis is doubtful is rendered difficult owing to the Lunacy Laws as now framed. In the first place, the medical man hesitates to sign the certificate if there is the least doubt about the patient's condition and, secondly, the friends of the patient object to removal to a recognised asylum unless there is some very obvious reason why home treatment is undesirable. There unfortunately exists an idea that some stigma attaches to the certification of a patient as insane and the general public cannot be brought to understand that insanity is the misfortune and not the fault of the affected person, and that the conditon if suitably treated may end in recovery. Like any other disease the prognosis is more favourable if special medical advice be sought when the malady is at an early stage, but too frequently this course is postponed owing to the reasons stated above until the patient has fallen into confirmed insanity. A joint committee of the British Medical Association and the Medico-Psychological Association has drawn up a draft clause for providing temporary care of persons suffering from incipient or unconfirmed mental disease, and the following is the text of that clause:—

DRAFT CLAUSE.

1. Where a medical practitioner certifies that a person is suffering from mental disease but that the disease is not confirmed, and that it is expedient with a view to his recovery, that the patient should be placed under the care of the person whose name and address are stated in the certificate for the period also therein stated not exceeding six months, then during that period the provisions of Section cccxv. of the Lunacy Act, 1890, shall not apply.

2. A medical practitioner who signs such certificate shall within three days after signing the same send a copy thereof to the Commissioners and it shall be lawful for any Commissioner to visit the patient. The person under whose care the patient is placed shall not be the person who signs the certificate.

3. The person who receives a patient under such certificate shall within 10 days after the expiration of the period mentioned in the certificate, or if he ceases to have the care of the patient under the certificate at an earlier date then within 10 days after such earlier date, send a report to the Commissioners stating whether the patient recovered, and if not, in what manner he was dealt with when the person making the report ceased to have the care of him under the certificate.

The committee also drew up a form of certificate as follows:—

CERTIFICATE.

I [*insert full name and address*] a duly registered medical practitioner certify that [*insert name, address and description of patient*] is afflicted [*state the nature of the disease*], but that the disease is not confirmed, and that I consider that it is expedient with a view to his [*or her*] recovery that he [*or she*] should be placed under the care of [*insert full name and description*] at [*insert full address of the place where the patient is to be received*] for a temporary residence for a period of [*specify a period not exceeding six months*] from the

Dated day of , 18 Signed

A deputation representing the joint committee were received by the Lord Chancellor on Feb 22nd. The views of the committee were expressed by the chairman (Dr. Rayner), by Dr. Blandford, and by Dr Savage The Lord Chancellor evidently attached much importance to the representations made to him and left the impression by his reply that he was not indisposed to initiate legislation in the direction desired though he took exception to the period of probation, six months, as being too long. The committee will have the thanks of the whole profession if as the result of their labours the much needed reform is effected Similar provisions have been in force in Scotland for 30 years and experience has proved them to work advantageously

SANITARY AUTHORITIES AND THE INSPECTION OF PREMISES

AN important decision was recently given in the Queen's Bench Division of the High Court having reference to the powers of sanitary authorities to enter upon premises within their district to ascertain whether they are in a sanitary condition. A duly authorised inspector of the St Pancras Vestry attended at the North London Collegiate School for the purpose of entering and examining as to the existence therein of any nuisance and admission was refused An application was then made to Mr Plowden, stipendiary magistrate, for an order This was refused on the ground that in point of law there was no evidence of reasonable ground for such entry The St Pancras Vestry appealed against the decision. Mr Justice Lawrance with whom Mr Justice Channell concurred in delivering judgment, said that the magistrate had a right to ask, "Why do you want to go in?" and the mere reply that "I wish to go in because the statute gives me power to go in" is not a reasonable ground Under the circumstances the magistrate was perfectly justified in refusing the right to enter According to this ruling it is obvious that medical officers of health and sanitary inspectors have no right to enter any premises save with the consent of the occupier, to examine as to the existence of any nuisance unless they have reasonable grounds for suspecting the existence of a nuisance and that the magistrate is the sole judge of what constitutes a "reasonable ground" It is probable also that any officer entering premises for the purpose of inspection without first obtaining the permission of the occupier is liable to an action for trespass This decision will be far reaching in its effects as it has hitherto been assumed that sanitary officials had the necessary power of entry for inspection purposes The present condition is most anomalous. Medical officers of health and inspectors of nuisances are in duty bound to make periodical systematic inspections of their districts and yet they have no legal right enabling them to do this. The practical effects of the decision remain to be seen but may not be so serious as at first sight they appear Entry, when requested in a respectful manner, is very rarely refused and many officials have never yet been refused It will however, no longer be safe to assume that the power of entry exists and permission should be asked and obtained in all cases, whether it is desired to enter a mansion or the humblest dwelling. As a medical officer has no right to enter a school to examine for a nuisance it is very probable that he has still less right to enter a school to examine the scholars In certain cases such "rights" are desirable and in any amendment of the Public Health Acts an attempt should be made to secure the requisite powers for making these inspections

"EMBALMED" MEAT IN THE AMERICAN ARMY.

THE "embalmed" beef question has of late been a disturbing factor in political, army, and medical circles in the United States. For some considerable time murmurs of discontent have been heard regarding the state of some of the canned meat sent out to Cuba, Porto Rico and Manila as food for the American soldiers in those places Matters, however, might not perhaps have come to a head had it not been that General Miles who is under the President at the head of the army and who commanded the United States expedition against Porto Rico, gave to the lay journals his opinions on the subject in the following strong terms "In addition to the reports of the regimental commanders I have a great mass of evidence consisting of communications affidavits &c., from officers soldiers, and civilians Every part of the country has contributed to the mass of correspondence which I have received in reference to the beef served to our soldiers and the evidence is all corroborative of what I have said The great publicity which the press has given to the matter has brought all the correspondence of which I speak unto me I have overwhelming evidence that the embalmed beef was treated with chemicals in order to preserve it. I have affidavits from men who saw the beef undergoing the treatment or embalming process. Now as to the canned roast beef, that was different from the embalmed beef The canned roast beef was the beef after the extract had been boiled out of it You have seen the advertisements, 'Beef extract—one pound contains the substance of from four to five pounds of prime beef.' Well, this is the beef after the extract has been taken from it They put this beef pulp up in cans and label it 'canned roast beef.' The soldiers report that the canned beef was nauseating If swallowed it could not be kept on the stomach I have no interest to serve but the army and the country When I found that it was the chemicals in the beef that had made the soldiers sick then I ordered an investigation and reports to be sent in So widespread is the evil that all the reports are not in yet They are overwhelmingly of the same character—all showing that the beef had been embalmed or was otherwise unfit for men or dogs Half a million pounds of this beef came in one ship to Porto Rico The soldiers were 60 miles away in the mountains The beef was so bad that it would have caused a pestilence had it been taken ashore from the ship So it had to be thrown overboard What else could be done with it? Nothing alive could eat it" Owing to General Miles's plain speaking the Government ordered an investigation of the matter to be made but the testimony offered has been of so conflicting a nature that no very definite result has been arrived at It should be said that it is claimed that boric and salicylic acids were the chemicals used to preserve the meat Naturally, the medical journals of America have been devoting a good deal of their space to a consideration of the subject and the *New York Medical Record* in its issue of Feb 4th has this to say with regard to the use of chemicals as preservatives of meat: "Worse than all, however was the unwarrantable experiment of adding chemicals in the shape of boracic and salicylic acids to prevent decomposition The overwhelming testimony of such as used the 'embalmed' beef is to the effect that it was offensive to the sight smell and taste was to the last degree unappetising and unwholesome, and that in very many instances it produced much of the digestive troubles which so largely prevailed among the soldiers.

This latter state of affairs can be easily explained by the ingestion of the toxins of decomposing animal food on the one hand and the constant admixture of chemical products with the food in question on the other. As there is no proof to show that boracic and salicylic acids are absolute preservatives it is fair to presume that the 'embalmed' beef was not only more or less decomposed but was artificially 'doctored' besides. Thus the two conditions were combined to make the men sick." From the very commencement of camp life much dissatisfaction has been expressed by the United States volunteer with the quality of the food supplied to him. No doubt this prejudice was largely due to the fact that he was in most instances "a green hand" and not inured to campaigning hardships, but with regard to the canned beef proof has clearly been afforded that a large proportion of it was unfit for human food—whether owing to defective packing or to the use of chemicals will, it seems, never be demonstrated to the satisfaction of the general public. At least, however, the investigation will do good to the extent of opening the eyes of the American people to the fact that adulteration of some kind is practised by the big preserved meat packers and such a sentiment will be aroused against the principle that these men will be compelled in their own interest to amend their ways and to supply wholesome canned meat.

DEATHS UNDER ANÆSTHETICS.

A death under ether occurred at the Paddington Infirmary on Jan. 30th. The patient was a well-developed and well-nourished man, aged 51 years. For the last three years he appears to have had attacks of *petit mal;* his lungs were emphysematous, but otherwise he was healthy. Ether was given from a Clover's inhaler with a view to the performance of an operation for the relief of urethral stricture. Methylated ether of the specific gravity of 0·720 was used. No struggling or unusual symptoms occurred—we are told by Mr. Sidney Vines, to whose courtesy we are indebted for careful notes of the case—during the period of administration. The breathing was somewhat shallow but never laboured and in four minutes when complete anæsthesia was present the respiratory rhythm was normal. At this time the colour was good, the pulse was regular, the pupils were moderately dilated and reacting to light, but the conjunctival reflex was abolished. The indicator of the inhaler was then standing at "3," and was turned to midway between "3" and "2," and the patient was pronounced ready for operation. Suddenly, and before the surgeon had commenced, the pulse intermitted; a few irregular, feeble beats occurred, and it then ceased, respiration grew shallow, and the patient's face became cyanosed. The pupils remained of medium size and the ocular globes were fixed. A distinct inspiratory effort was made after cessation of the pulse. Restorative measures, although promptly adopted, failed to effect resuscitation. This is a case of peculiar interest, as the phenomena described are most unusual under ether, as indeed is the termination. The administration seems to have been conducted in the most careful and accurate manner, so that the death was certainly not the result of overdose, insufficient aeration of the lungs, or failure of circulation from strain imposed upon the heart by muscular spasm. It is possible that the syncope was the result of a fit such as the patient was in the habit of having, possibly brought on by the excitement and trepidation incident to facing an operation under an anæsthetic—a first experience. Such seizures occur even under profound narcosis but do not necessarily result in fatal syncope in all cases. It is unfortunate that no post-mortem examination was made, as the condition of the viscera and especially of the brain and kidneys would have somewhat guided the clinician in his classification of so unusual a case of death under ether. A death under chloroform occurred recently at the Metropolitan Hospital. The patient was a man, aged 37 years, suffering from strangulation and gangrene of the intestine due to a volvulus. He was given chloroform by a house physician with a view to operation but he died under the anæsthetic. We have not been favoured with any particulars as to the method employed or as to the phenomena of the induction, but we gather that the man was probably *in extremis* at the time the chloroform was employed. In conditions of such grave collapse it is usual to employ ether or the A.C.E. mixture but why the choice fell upon chloroform we have no means of judging. A death, also under chloroform, is stated to have occurred at the Royal South Hants Infirmary on Feb. 2nd. The patient, a man, aged 33 years, suffered from an abscess affecting the chest wall and sub-sternal tissues. This was opened under chloroform, but as recovery was not satisfactory a further operation was judged to be necessary. When chloroform was given (? method) the man struggled, became rigid, and ceased to breathe. At the inquest it was stated that death probably resulted from pressure of the matted tissues upon the vagus. Unless the facts are very much distorted—which can hardly be the case, as we understand that the report is fairly accurate—the cause of death was the usual one in such cases—an overdose of chloroform taken during the period of struggling. The vagus nerve has so many functions that it must be always a factor in death, but it is very seldom that mechanical and slowly exerted pressure leads to more than alteration of the cardiac rhythm. No doubt dragging upon the vagus during dissecting operations about the sterno-mastoid region does produce a marked degree of inhibition, but not, we believe, rigidity with respiratory paralysis. These are practically always the result of poisoning of the medullary centres by a *too* concentrated vapour of chloroform inhaled sometimes in a single deep inspiration such as commonly occurs after a prolonged period of holding the breath while struggling. All methods such as pouring unmeasured quantities of chloroform upon any surface from which it is inhaled lead to such overdosage as the administrator has no power to limit or to prevent at the critical moment, save that of removing the cloth or other "apparatus" from the patient's face, and this is unhappily seldom done until the fatal overdose has been inhaled.

THE SAFEGUARDING OF THE NILE.

Objection of a more or less sentimental character was taken to the statement by Mr. Brodrick in the House of Commons that the body of the Mahdi had been thrown into the Nile but none of the honourable Members present seem to have noticed the highly important signification of the act when regarded from a sanitary point of view. With the alleged desecration we are not specially concerned but the preservation of the waters of the historical river from organic pollution is a matter which cannot but prove of interest to all hygienists. Unlike other countries Egypt is entirely dependent on the Nile for its supply of drinking-water. There are no springs or wells properly so-called to be found from one end to the other of the immensely long groove which the great stream has worn for itself on its way through the Libyan desert to the Mediterranean. Wells or shafts for water certainly do exist, some of them of a considerable depth, but all without a single exception are fed by the Nile and would speedily run dry were the bed of the river to be diverted. It is therefore of the utmost importance that the wholesomeness of the Nile water should be religiously maintained. Of course the amount of contamination produced by one human body could only be insignificant, but it would be a truly serious calamity if the people of Egypt were to get hold of the idea that in the eyes of the executive the purity of the river was a matter of little or no consequence. Already the tendency to dispose of putrescible material by casting it into the stream is far too common. If the fellah were not afraid of contravening the sanitary notions of his exotic rulers the Nile would very soon be converted into a general sewer. That it partook of this character not so very long ago is, we believe, an undoubted fact, but of late years under British impulsion a good deal in the way of purification has been accomplished. The task no doubt is full of difficulty, involving as it does a radical change in the habits and customs of an entire nation, but if it is to be carried to a successful issue the hands of the sanitary officials should be strengthened and not weakened. Since the foregoing was written we have learned that, notwithstanding the statement in Parliament, there are still considerable doubts regarding the actual disposal of the false prophet's remains. According to a morning contemporary[1] Mr. Brodrick was not quite accurate in stating that the body of the Mahdi was thrown into the river. The tomb at Omdurman was no doubt opened, but the skull and some of the bones are at present in the possession of officers who took part in the campaign. A portion of the coffin, too, has been preserved as a memento of the overthrow of Mahdist tyranny in the Soudan. It is sincerely to be hoped that this is the true story. That Lord Kitchener with his training as a Royal Engineer could ever under any circumstances have given orders for a dead body to be thrown into the Nile was, on the face of it, well-nigh incredible from the first.

THE MORTALITY FROM DRINK.

DR. WILLIAM CARTER of Liverpool has been delivering a public lecture on drink in which he draws attention to several points. Amongst others, arguing from the returns of the Registrar-General, he shows that the deaths directly attributed to intemperance in 1896 were 91 per 1,000,000 among males and 52 per 1,000,000 among females, these rates being considerably in excess of the mean rates in the 10 years immediately preceding. We are constantly assured by politicians that drunkenness is diminishing. Dr. Carter says: "Year by year almost without a single break in its cruel and pitiless progression the mortality from drunkenness has been, and is, increasing, and it shows what is worse than all and what should arouse the national conscience, or if the conscience is dead or asleep should rouse the nation to a sense of its imminent danger—viz., that the deaths are increasing among women far more rapidly and in a far greater ratio than among men." He gives particulars to show that whereas in the years 1876–80 38·4 deaths from the direct effects of alcohol occurred in every 1,000,000 people living, in the years 1891–95 68 such deaths occurred, an increase of 80 per cent. In the last period over the first, reached steadily and progressively through the years of the intervening period. Perhaps the most important part of Dr. Carter's address is that in which he shows the much greater rate of increase of mortality from drink among women than among men, so that whereas the proportionate increase of deaths from this cause among men has been 42 per cent. up to 1895, that among women has been more than 100 per cent. This is brought out very strikingly in the case of the deaths not returned as alcoholic, but which medical men know to be mainly such in their causation—in particular, cirrhosis. The increase of deaths from this cause is in the case of males in the last 30 years at the rate of 300 per cent. and in the case of females at practically 400 per cent. Dr. Carter refers very eloquently to his investigations with Sir Henry Littlejohn and to the classical investigations of Dr. Parkes and Dr. Sanderson into the sanitary condition of Liverpool. Dr. Carter is puzzled, as all medical men must be, with the comparative indifference with which mortality of this sort is regarded by the public and by sanitary authorities as compared with mortality from infectious and notifiable disease. The deaths of 22·4 persons per 1,000,000 from typhus fever from 1877 to 1881 inclusive stirred the sanitarians and the public and more stringent sanitary legislation was procured with the result that the mortality from typhus fever has fallen in 1896 to two per 1,000,000. In the same period 43·3 per 1,000,000 died directly from alcohol, to say nothing of indirect mortality. We hear no such protest from sanitarians and the mortality goes up to 91. It is a hopeful sign when physicians of Dr. Carter's standing, with a great medical experience of life in such a city as Liverpool, give prominence to such grave facts Whether such drunkenness is cause or effect may be matter for argument. It coincides with an enormous expenditure on sanitary improvements and an equal improvement in the social and economic conditions of the people and ought to receive the immediate attention of the nation.

"THE TUBERCULOSIS PROBLEM IN THE UNITED STATES."

THERE is much that is interesting in a paper with the above title in the *North American Review* for February by Dr. J. A. Knoff. With the greater part of his remarks we agree, but with others we cannot concur. For instance, he states that consumption "is the disease which the power of man could cause to disappear from the world with more certainty than any other." We believe that most medical authorities would consider small pox, typhus fever, and rabies far more preventable than tuberculosis, although by suitable precautions the death-rate from tuberculosis could be lowered even more than at present is the case. Dr. Knoff not only expresses the opinion as to the possibilities of diminishing tuberculosis, but also proposes a scheme by which he thinks a great deal could be done towards that very desirable end. He says: "Just as there exists in nearly all States or municipalities a commission or a number of special examiners for the purpose of determining who is a proper subject for State care in an asylum for the insane, so should there exist a commission for the determination of admission to a municipal or State institution for consumptives." Dr. Knoff enters into considerable detail as to the carrying out of such a scheme. He suggests that a committee should be formed consisting of physicians and laymen for the following purposes: to determine the applicant's condition by a medical examination; to visit his home if he has been found tuberculous and to institute such hygienic measures as seem necessary; and to examine the other members of the family in order to find out if any of them have also contracted the disease and, if so, to counsel proper treatment. Then follows a very drastic proposal—to report in full to the sanitary authorities concerning the condition of the patient's dwelling and suggesting its renovation or even destruction when it is evident that tuberculosis has become "endemic" there owing to the condition of the soil or to other sanitary defects. We doubt whether any sanitary authorities would ever consent to such extreme measures even if they could be proved necessary. A house might be deemed insanitary owing to the condition of the drainage, but to insist on its demolition would require a stronger authority than a committee formed on the lines which Dr. Knoff proposes. Finally, a suggestion is made which would be sure to meet with such strong opposition that its adoption would be almost hopeless—the committee is to determine the financial condition, whether the patient is or is not able to pay and whether or not by his being taken to an institution the family will become destitute. "If the latter should be the case it would become an imperative duty for the municipality to provide for the family." Considering the enormous prevalence of tuberculosis among those entirely unable to pay for the prolonged treatment necessary, such a scheme can only be considered to be utopian. With another part of Dr. Knoff's paper we most strongly agree. He says: "In reality, pulmonary tuberculosis is not a contagious disease, the contact *per se*, the touch of the invalid, is not capable of transmitting the disease; it is the ignorant, unclean, or helpless patient who by his mode of disposing of his expectorations endangers the life of others. ...... Thus it is more correct to call pulmonary tuberculosis only a highly communicable disease and we repeat, from living or coming in contact with a clean, conscientious, tuberculous invalid, nothing whatever is to be feared." Such words are likely to have a considerable influence in calming the unnecessary alarm which has arisen in lay minds as a consequence of classing "consumption" amongst "infectious diseases."

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[1] The Morning Post, Feb. 21st, 1899

PARALYSIS OF THE SOFT PALATE FOLLOWING NON-DIPHTHERITIC SORE-THROAT.

IS paralysis of the soft palate following sore-throat a proof that the disease was diphtheria? Most clinicians would probably say yes. But analogies which prevail among the infectious diseases, and the occasional occurrence of what is a common complication of one as a very rare one of another, ought to raise some doubt. Multiple neuritis may occur in many diseases and may not the palatal paralysis of diphtheria, which is probably a local effect of the diphtheritic toxin, be produced by other toxins? The following case, brought before the Société Médicale des Hôpitaux by Professor Carrière, is of great importance and appears to be quite conclusive. A woman, aged 20 years, was seen on the third day of an illness which was attended with rigors and pain in the back. The temperature was 100·2°F., the face was pale, and the cervical glands were enlarged. The uvula, the soft palate, the fauces, and the tonsils were covered with greyish-white, adherent false membrane which penetrated into the tonsillar crypt. The mucous membrane beneath was bright red and hæmorrhagic in places. Cultures were made repeatedly and they showed only streptococci and staphylococci. In spite of energetic local treatment the membranes were rapidly reproduced. Improvement began on the sixth day; the throat was red and free from membranes on the seventh. The glandular enlargement lasted for about 15 days. On the twenty-seventh day the patient noticed that her voice was nasal. There was total paralysis of the soft palate. Under faradaisation recovery took place in about three weeks.

THE CORPORATION OF HASTINGS AND THE HASTINGS DRINKING-WATER.

THREE or four weeks ago the town clerk of Hastings, instructed by the Water Committee, wrote to the local paper to say that all the water supplied to the borough had been analysed and was "chemically of high quality." The analysis was not given and one of the ratepayers asked to see it, promising not to publish it without permission. He was informed, no other reasons being given, that "it has not been the practice to furnish individual ratepayers with details of the analyses from time to time made of the water supplied to the borough and that the committee cannot see their way to make an exception in your favour." The ratepayer replied that if desired he would pay for the information, for it was but natural that he should wish to know what he was drinking and that the mere assurance of the corporation that the water was good for him personally was not quite sufficient. He also pointed out that he had not promised to refrain from publishing any analysis which he himself might make and that if the corporation persisted in secrecy he was afraid people would draw their own inferences. Two men then called at his house and took away a sample of the water and a few days afterwards he received a letter from the town clerk telling him that the Water Committee "had nothing to add to previous communications." The Hastings Corporation can hardly expect that all its constituents will consent to be treated like children and will swallow in perfect confidence what it pours down their throats. Of course, as the ratepayer said, conclusions will be drawn and if they are unjustly unfavourable the corporation alone is to blame. The phrases "not been the practice" and "nothing to add" show, as has often been observed before, that the provincial Tite Barnacle is much more official than his brother at Whitehall.

THE LEAGUE OF MERCY.

WITH the Prince of Wales as President and the Princess of Wales as Lady President a League of Mercy has been formed for the purpose of promoting the welfare and furthering the objects of the Prince of Wales's Hospital Fund for London. A special object of the league is to encourage personal service in promoting the adequate maintenance of hospitals and an "Order of Mercy" has been established which will be conferred as a reward for gratuitous personal services in this direction. We hail the foundation of the league as yet another proof of the Prince of Wales's broad sympathy and no less of his sagacity, while we note with particular pleasure that the services to be rewarded must be personal.

THE SMOKE NUISANCE.

WE have received an advance copy of the prospectus of the Coal Smoke Abatement Society. Its President is Sir William Richmond, its secretary Mr. Owen B. Thomas, and its treasurer Dr. Des Vœux; while the offices are for the present at 59, Chancery-lane. We are glad to see that such a society has been formed, for we have done our best for some time past to rouse the sanitary authorities to take action and to incite magistrates to convict in cases where the feeble defence of "No Welsh coal" was put forward. Besides the strict enforcement of the existing laws against black smoke there should be another passed making it illegal for any house to be built in future without being fitted with proper smoke-consuming appliances. We may mention that the annual subscription to the society is 5s., but subscribers may give more if they like.

THE PRESENTATION OF THE FREEDOM OF THE CITY OF LONDON TO SIR HUGH OWEN, G.C.B.

THE ceremony of admitting Sir Hugh Owen to the Freedom of the City of London upon his retirement from the position of Permanent Secretary to the Local Government Board, the duties of which he has so long and so ably fulfilled, took place in the Guildhall Council Chamber on Feb. 24th. The Master of the Worshipful Company of Plumbers (Mr. Alderman Hind) occupied the chair, for with obvious fitness it was as a liveryman of the Plumbers' Company that Sir Hugh Owen was admitted to the Freedom of the City. In addition to the wardens, and a special court of the company the Master was supported by the Lord Mayor and Sheriffs, Mr. Chaplin (President of the Local Government Board), the Earl of Onslow, Earl Fortescue, Lord Welby, Sir Richard Webster, G.C.M.G. (the Attorney-General), Mr. McKinnon Wood (Chairman of the London County Council), and a large and influential gathering of Members of Paliament and representatives of Government municipal departments more or less intimately associated with Sir Hugh Owen in his work. The Lord Mayor on behalf of the citizens welcomed the new Freeman while Mr. Chaplin on behalf of his department bore personal testimony to the excellent work done by Sir Hugh Owen and to his many sterling qualities Mr McKinnon Wood, as representing "Greater London," referred to the enormous and ever-increasing amount of work carried out by the department over which Sir Hugh Owen was the acting chief, the amount of which work the public generally had no means of appreciating. The simple ceremony of taking the oath and signing the roll having been gone through, Sir Hugh Owen in returning thanks spoke of the interest taken by the Plumbers' Company not only in the craft which they represented but in questions of public health

MUNICIPAL BACTERIOLOGY.

FOLLOWING the announcement in our issue of Feb 18th that the vestry of St Giles had made arrangements for the bacteriological examination of suspected cases of typhoid fever and diphtheria we now have pleasure in noting that the board of works for the district of Poplar and Bromley has decided as an experiment for two months to supply diagnosis boxes, sterilised, to medical practitioners for use in suspected cases and to submit the same when charged to bacteriological examination This excellent innovation is due to the energy of the medical officer of health, Mr F W, Alexander, and we sincerely hope that at the end of the two months the arrangement will be found to be worthy of being made permanent

THE GENERAL MEDICAL COUNCIL.

THERE has been considerable activity in the offices of the General Medical Council during the last week The committee appointed to watch legislation on the subject of midwives and its agreement with the views of the Council sat on Saturday last On Monday the usual meeting of the Executive Committee in the interval of the sessions of the Council was held, and on Tuesday the first meeting of the Penal Committee since the November meeting of the Council took place The premises of the Council are in the hands of builders who in accordance with the resolution of the Council in December are adding to the height of the building and providing additional rooms which are much needed

THE new laboratories in connexion with the Middlesex Hospital Medical School are now completed and are equipped with all the best modern appliances for the purpose of instruction and original research An inaugural conversazione will be held on the evening of March 15th in the new buildings when many objects of interest will be exhibited

THE council of the Medical Society of London, on the recommendation of a special committee, have awarded the Fothergillian gold medal for 1899 to Dr S Monckton Copeman "in recognition of his researches on the preservative effects of glycerine upon vaccine lymph and of the benefits in a practical sense that have arisen therefrom"

WE understand that Sir Samuel Wilks is not likely to offer himself for re election as President of the Royal College of Physicians of London at the meeting to be held on March 27th

THE St Patrick's Festival Dinner of the Irish Medical Schools' and Graduates' Association will this year be held on Saturday, March 18th, at 7 15 P M, at the Café Monico, Piccadilly circus, the President, Sir William Thomson of Dublin, in the chair. The association will have the honour of entertaining as the guest of the evening a distinguished Irishman—General Sir George White, V C, G C B, G C S I G.C I E, the Quartermaster-General and late Commander in Chief in India As a large attendance is anticipated members should make early application for dinner tickets to the honorary secretary, Mr P. J. Freyer, 46, Harley street, W.

MR WALTER FRANK RAPHAEL WELDON, M.A, F R S late Fellow of St John's College, Cambridge, and Professor of Zoology at University College, London, has been elected Linacre Professor of Comparative Anatomy at Oxford in place of Professor Ray Lankester, resigned.

AT the annual meeting of the Royal Medical and Chirurgical Society held at the rooms of the society on Wednesday last, March 1st, Mr Bryant was re elected President

PROFESSOR RAY LANKESTER, the Director of the Natural History Museum (British Museum), has been elected a Correspondent of the French Academy of Sciences

LORD LISTER has been made a Correspondent of the Paris Academy of Medicine

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE fifty fourth sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Feb 21st The Commissioners present were the Chairman (Lord Llandaff), the Right Hon John William Mellor, Sir John Dorington, Mr de Bock Porter, Mr. Robert Lewis, and Major General Scott

The examination of Mr. HARRY WILKINS, secretary to the Lambeth Waterworks Company, occupied the whole of the sitting The witness contradicted some statements with regard to financial matters which had been made by Mr. Gomme, a witness who had given evidence on behalf of the London County Council In the course of the evidence some information was given with regard to the water supply of Croydon It may be remembered that part of Croydon is supplied both by the municipal waterworks and by the Lambeth Company A case occurred in which the new owner of a house had preferred to have the water supplied by the corporation The charges made by the corporation of Croydon for their water supply were formerly less than those made by the Lambeth Company and complaints had at that time been made with regard to the quality of the water supplied by the Company. The witness ascribed these complaints to the fact that they charged more for water than was charged by the corporation; they therefore reduced their prices in the year 1894 and since that time they had not had a single complaint of the inferior quality of the water which they supplied At the present time, the witness stated, the people of Croydon were charged the same price by the Lambeth Company and by the Croydon Corporation

In answer to Mr DE BOCK PORTER the witness said that they had not lowered their charges in Croydon because of the competition but because of the allegations as to the quality of the water which they supplied. If it got abroad that the quality of their water was inferior they would suffer a very heavy loss and it answered their purpose to come down to the Croydon charges in order to disprove that allegation

The CHAIRMAN asked the witness whether the charges made at Croydon were sufficient to make a profit on the water which they supplied there. The witness replied that "whether they did or did not was immaterial"

In answer to Sir JOHN DORINGTON the witness said that last year one of their customers had withdrawn his custom from the company and taken the supply of the Croydon corporation He stated also that a medical man at Croydon had recommended one of his patients to take the Lambeth water in preference to that supplied from the chalk well of

Obituary.

SIR JOHN STRUTHERS, M.D., F.R.C.S. EDIN., LL.D. GLASG.,

EMERITUS PROFESSOR OF ANATOMY IN THE UNIVERSITY OF ABERDEEN.

SIR JOHN STRUTHERS died at his residence in Edinburgh on Friday, Feb. 24th. He was born in 1823, at Brucefield, near Dunfermline. He was one of three brothers who, like his own three sons, entered the profession of medicine. Edinburgh then, as now, was the leading medical school of Scotland, but, as Struthers was always fond of saying, the University benefited by the "Colleges," which he always advised young graduates to join. In 1845 he took his M.D. degree. In the same year he became F.R.C.S. Edin., and no doubt his devotion to the Royal College of Surgeons of Edinburgh may be explained by the fact that it was there, after his apprenticeship as demonstrator at the University, that he first felt his power as a teacher of anatomy. He was a keen and persistent dissector. To this as to every other of his pursuits, he gave himself without after-thought. *Quicquid agis, age pro viribus* was an axiom with him. He used to tell with regret how from his devotion to the scalpel he missed one afternoon a great scene in the history of Scotland—the solemn procession of the Disruption which was the beginning of the Free Church of Scotland. But the absorption was characteristic. Even at this early stage he was much more than a lecturer on anatomy. The extra-mural school did not then occupy the proud position of extra-University that it has since achieved; and Struthers was a leader in securing its recognition.

After some 16 years of vigorous teaching and reform in Edinburgh he was appointed in 1863 to the Anatomy chair in Aberdeen University. The University of Aberdeen, as we now know it, made by the fusion of two historic universities, was then only three years old. The medical faculty had its home in Marischal College where some of the class-rooms stood vacant because the "arts" had been transferred to King's College. But there was only one laboratory, which was reserved for chemistry. There was a dissecting-room, but in Struthers's opinion it was hopelessly inadequate. Forthwith he asserted, in Senate and in council, the claims of science. In those days the teaching of classics dominated everything. The two great liberalising forces were Professor Bain in arts, and Professor Struthers in medicine. Together and singly they fought for reform after reform until to-day the students have almost more than their own and the University adapts itself to every type and variety of man. Struthers by his persistence kept the board of works aware of its obligations to keep the universities in repair. He ultimately got new dissecting-rooms, a new lecture theatre, and a new museum. These, though far from possessing the magnificence of the latest "rooms," ranked as among the best of their time. Attached to the dissecting-rooms was a microscope-room which was an immense innovation. The bone gallery, where in the course of time white bones fell into new orders for the ends of teaching, was not only in itself a well-arranged museum but was also an inviting students' reading-place. The museum was a home of comparative types, the most conspicuous example of which was perhaps the "static procession" of graded skeletons from the minor monkeys, through the higher apes, ourang-outang, and gorilla to man. Nothing could more subtly mould the impressionable mind of the beginner to receive the leading conceptions of comparative anatomy. Partly in the natural order of things, partly—and largely—through the tireless energies of Struthers, the medical school rose steadily in numbers. In a pamphlet published some years ago he records that in 1861–62 the total students of medicine numbered only 160; in 1889–90 (his last year of teaching) they numbered 433. Struthers steadily kept the claims of the school before the general public. The result was that money flowed in, and to-day the medical faculty is assisted by a large number of bursaries, prizes, and at least one good travelling fellowship.

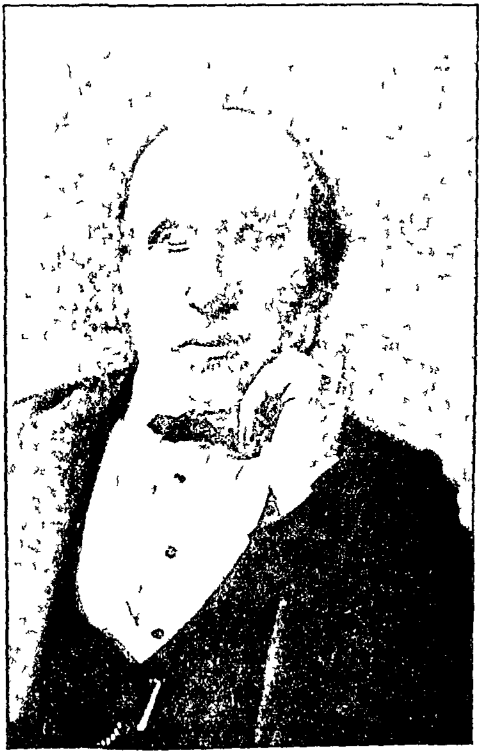
His teaching, both in the dissecting-room and in the lecture-room, was nothing if not objective and demonstrative. He had come through a time when lectures were merely lectures and he set his face against words. The man who did not know his "bones" got no farther forward. He came there to use his own eyes not the eyes of others and use his own eyes he must. In the days of his vigour Professor Struthers was a clear, elegant expositor. To a large extent he used diagrams and blackboard, filling in the outlines as he proceeded. But he put note-taking in the second place. His purpose was to fix in the mind concrete images of things, not verbal descriptions of them. He kept three, if not four, courses running abreast—elementary osteology, general anatomy, regional anatomy, advanced osteology (including comparative), and these had to be verified and supplemented in the dissecting-room. He also had a special course of histology. Like Huxley, he was interested in the "engineering" of the whole animal world. When he went to Aberdeen the "Origin of Species" was only four years old. The new ideas of natural selection, adaptation, and survival were only beginning to affect the few scientific minds that were still young or open. Struthers was open and not yet old. He taught Darwinism as the occasion came and it came often. The "old teleology" came in for many a gentle sarcasm. It is curious how shadowed by theological prejudice physical science seems then to have been; but Struthers, who knew Hugh Miller and the battle he fought, braved the popular opinion and taught to his students what he believed to be the truth.

As in Edinburgh so in Aberdeen Struthers occupied all the time he could in promoting the cause of medical education. He became a member of the Aberdeen Royal Infirmary Board, and at once he urged on the public the necessity for increased hospital accommodation. The fine extensions now in full use owe not a little to his timely forcefulness, and to-day the general public no less than the medical school is the gainer. On his retirement in 1889 he never slackened in the same cause. He became a member of the Edinburgh Infirmary Board and did his powerful best to keep the teaching purposes of the hospital well to the front. It is an open secret that he developed the pathological department immensely. Again, on the Leith Hospital Board he took for years a powerful lead. By urging the exclusion of infectious cases he compelled the local authority to bear its proper burden and lightened the hospital for an increased amount of general medicine and surgery. He succeeded in getting the hospital extended to the necessary dimensions of a good teaching hospital and when the Leith Public Health Hospital at East Pilton was opened two years ago he was there to congratulate the Town Council on the great stride forward.

Meanwhile he had become President of the Royal College of Surgeons of Edinburgh. In 1898 the Queen recognised at once the man and the institution by conferring on him a knighthood. The whole of his pupils and those of the profession who knew him felt that few so well deserved recognition at the hands of the State. Glasgow University had honoured him with the LL.D. degree some years before. His friends had had a fine portrait of him painted by Sir George Reid, P.R.S.A. This beautiful picture now hangs in the new picture gallery of Marischal College. These honours and offices of friendship Sir John Struthers appreciated warmly. But perhaps what touched his heart most was the spontaneous, informal gathering of pupils last July to present him with an address of congratulation on his recent honours.

About a year ago his health began obviously to fail. At the Lister reception in June last his extreme pallor was the remark of everyone. He went on a voyage to Norway, but that was of no avail. He tried the effect of rural scenery, but that also was of no avail. In August or September last he was compelled by weakness to keep his bed. About the middle of February a serious change for the worse came over him and on Feb. 24th after a life of strenuous and unselfish battle for great causes he laid down his arms and passed "to where beyond these voices there is peace."

A member of the General Medical Council writes: "Dr. Struthers, as we all knew him, was a very active member of the Council during the years in which he was a member either for the Joint Universities of Edinburgh and Aberdeen (1883–1886) or for the University of Aberdeen alone (from 1886 to 1891). There was a fighting element in him which found many opportunities of asserting itself. He was always in favour of thoroughness and work in medical education and of such methods of examination as best tested these qualities. He was opposed to the Apothecaries' Council appointing surgical examiners to the Apothecaries'



SIR JOHN STRUTHERS, M D, LL D

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Society and would have refused such appointments so as to end that corporation in 1887, but was prevented from doing so by a large majority of the Council who thought the society had done good work for the profession since 1858 and that it was somewhat hardly treated by the Royal Colleges under the Act of 1886. His large experience as a teacher in anatomy and his devotion to the work, as well as his native sense and his great knowledge of medical education in Scotland, gave an interest to his speeches in the Council which occasionally, however, were pitched in a tone of superiority which militated against the acceptance of his view. He was for several years chairman of the Education Committee, and in that capacity as well as in that of chairman of the Visitation and Inspection Committees he did very hard and valuable work for which he received the special thanks of the Council in 1891. His love of work, especially of anatomical work, was a passion and continued until illness made it impossible. It infected his pupils and all who came within his influence—a number which included many of the best and most successful members of the profession in and out of Scotland."

CHARLES JOSEPH ARKLE, M.D., F.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO CHARING-CROSS HOSPITAL.

DR. CHARLES ARKLE whose sudden death Charing-cross Hospital has now to deplore, entered at University College as a medical student in 1879. He qualified in 1884 as a Licentiate of the Society of Apothecaries and in the next year gained the Atkinson Morley Surgical Scholarship. He then proceeded to the M.B. London and subsequently filled the posts of house surgeon, house physician, and obstetric assistant in the University College Hospital. In these posts he won not only the cordial approval of the staff but the warm regard of all with whom he worked. Especially was he popular with his fellow residents in the hospital, for he was in a marked degree genial and kindly, one whom it was impossible not to see was the well-wisher of all with whom he had to do. While his successful career on the junior staff warranted the promotion it was in great part owing to his cordial manner and generous disposition that when the post of senior resident medical officer became vacant he was asked to fill it. It was generally recognised that under him the wheels of the hospital management would run very smoothly—a result which many resident medical officers have found it by no means an easy one to secure. The way in which he carried out the duties of the appointment fully justified all anticipations, and when his appointment as teacher of bacteriology at Charing-cross Hospital and assistant physician to the Brompton Hospital for Consumption, although enlarging his sphere of work, pointed to a severance of his connexion with University College it was universally allowed that the loss would be a great one and that upon Dr. Arkle rested a large share of credit for the present efficiency of the medical school.

In the beginning of 1892 the Council of Charing-cross Hospital decided to combine the posts of pathologist to the hospital and curator of the museum, and Dr. C. J. Arkle was appointed to the office thus created. This was his introduction to the Charing-cross Hospital Medical School and his personality soon made itself felt. He was an able and popular pathologist, grasping the main facts of a case readily and expounding them with remarkable lucidity. His more systematic weekly demonstrations were regularly attended by a large number of students. To the museum he devoted much time and attention, but his work in this department was performed in the recesses of the curator's apartments and did not attract so much attention. At the end of 1892 he was appointed teacher of bacteriology and he held this appointment until last year. In 1895 a vacancy occurred on the medical staff of the hospital and Dr. C. J. Arkle was thereupon appointed assistant physician. This involved the resignation of his former appointment, but as joint lecturer on practical medicine and medical tutor he had ample opportunities for the study and teaching of clinical medicine—the kind of work for which he always showed the greatest preference. Two characteristics in his clinical teaching were very marked. One was an excellent knowledge of surgery and the other was that practical faculty of emphasising essential points which has already been referred to in connexion with his work as pathologist. Dr. Arkle was neither a rapid worker nor a quick speaker, and when to his work already mentioned were added the duties of vice-dean at the medical school and assistant physician at the Brompton Hospital it gradually became evident to some of his friends and, indeed, to himself that even his strong physique might suffer, but he decided not to give up his vice-deanship until the expiration of the ordinary term of office. By a strange and sad coincidence this occurred on the day of his death.

Dr. Arkle was a man who had many friends and no enemies. His genial face, kindly, good-natured disposition, and his interests in sports ensured his popularity among the students, while his sound judgment, his uncompromising integrity, and his varied social qualities made him a favourite with all his colleagues at the different institutions with which he was intimately connected. As a football player he was well known, both when he was a student and for some years afterwards. He was a bold and skilful forward at the Rugby Union game and was captain of the United Hospitals Football Club when that club could place a very dangerous combination in the field. He was an ardent mountaineer and for some years past had been in the habit of devoting at least a month each summer to climbing in Switzerland. He was a member of the Alpine Club and had scaled repeatedly most of the usual peaks of the Alps and many not attempted by the ordinary climber.

Dr. Arkle's contributions to medical literature were fairly numerous and whenever he wrote he always had something to say that was worth saying. Among his most important papers are one contributed in conjunction with Dr. Hinds of Worthing to the Pathological Society in 1896 on Pneumonomycosis, one contributed to the *British Medical Journal* upon the Local Anæsthetic Effects of Cocaine, and one contributed to our columns upon a case of Measles occurring during the Course of Typhoid Fever.

The attack of pneumonia to which he succumbed appeared only three days before death, but it rapidly involved a large extent of both lungs and proved fatal.

ROYAL PORTSMOUTH HOSPITAL.

OPENING OF NEW WARDS.

T.R.H. THE DUKE AND DUCHESS OF YORK visited Portsmouth on the afternoon of Feb. 27th in order to open two blocks of the hospital which have been erected at a cost of £16,000 in commemoration of the Queen's Diamond Jubilee and form the first part of a scheme for the entire reconstruction of the building. There are two wards in each block, measuring 87 feet in length, 28 feet in width, and 14 feet six inches in height. They are lighted by 11 windows on either side and each ward is furnished with beds for 20 patients. The flooring is of Terrazo marble and the heating is by Teale's patent stoves, of which there are two in each ward. A separate block for the bathroom and lavatories has been provided at the end of each building, built of glazed bricks with a connecting passage leading into the ward. Gas is used for cooking purposes and the lighting is by electricity. The plans, prepared by Messrs. Young and Hall of Bloomsbury, show that it is intended in the future to build two other blocks similar in construction. This hospital has previously been favoured with the patronage of the Royal Family. The foundation-stone of the original building was laid by the late Prince Consort on Sept. 27th, 1847, and that of the present new blocks by the Duke of Connaught on August 7th, 1897.

The Duke and Duchess of York travelled from London in the morning and after luncheon at Admiralty House drove to the hospital accompanied by Lord Northbrook and Admiral Sir Michael Culme-Seymour and were received by Sir W. D. King (chairman of the Hospital Committee), the Mayor, General Sir F. Fitzwygram, M.P., Sir John Baker, M.P., General Sir Baker Russell (Commanding the Southern District), Admiral Sir H. Chads, the Bishop of Portsmouth. Proceeding to the board room the following members of the medical staff were presented to Their Royal Highnesses: Dr. Ward Cousins, Dr. Lloyd Owen, Mr. H. Rundle, Dr. Wallace, Dr. Watson, and Dr. Ware. A procession was then formed for one of the new wards where the members of the corporation in their robes and leading representative citizens were assembled. The nursing staff of the hospital lined the corridor. After dedicatory prayers said by the Rev. C. E. CROWLEY, chaplain to the hospital, Sir **WILLIAM KING** opened the formal proceedings by tracing the history of the hospital and describing its growth and various extensions. He claimed that the new part of the hospital was the most perfect of its kind in the south of England.

The **MAYOR** in a brief speech observed that the Duke of Connaught, a soldier, laid the foundation-stone and the Duke of York, a sailor, would open the building, which was most gratifying to a naval and military town like Portsmouth.

Sir **JOHN BAKER** moved a vote of thanks which was seconded by Lord **NORTHBROOK** on behalf of the county and supported by Dr. **WARD COUSINS** who spoke on behalf of the medical staff of the hospital and pointed out the immense advantage that a properly constructed hospital was for the cure of the sick and injured, and expressed his conviction that the other two blocks would be built before long.

The Duke of **YORK**, *in reply, said*: In the name of the Duchess and for myself I cordially thank the speakers for their kind words and for the vote of thanks. I need not say it has given us both the greatest pleasure to come here to-day to take part in the ceremony of opening this new addition to the Portsmouth Hospital. But it gives me a special pleasure because I come here as the member of the third generation of my family who have been connected with this hospital, as the Prince Consort laid the foundation-stone of the original building and the Duke of Connaught laid the foundation-stone of this building in 1897 in commemoration of the sixtieth year of the Queen's reign. I can only say I congratulate you on the completion of these additions which cannot fail to be of the greatest value to the sick and poor of this community, and I wish to commend this hospital to your care and liberality, feeling sure that it will receive at your hands the same consideration in the future that it has always received in the past. I wish the hospital every success and prosperity and I trust that sufficient money will soon be raised to complete the remaining buildings. I have great pleasure in declaring the new wing of the hospital to be open and at the request of the committee I name the two women's wards "Victoria" and "The Duchess of York" and the two men's wards "Albert" and "Connaught."

Afterwards the Royal party inspected the building and partook of tea. On the Duchess being told that one of the survivors of the *Arno* disaster was a patient in the hospital she asked to be taken to his bedside and there she spoke a few words of sympathy to the poor fellow who was deeply touched by the fact that Royalty showed an interest in his welfare.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6900 births and 4505 deaths were registered during the week ending Feb. 25th. The annual rate of mortality in these towns which had been 21·9 and 19·5 per 1000 in the two preceding weeks rose again last week to 20·6. In London the rate was 21·5 per 1000, while it averaged 20·0 in the 32 provincial towns. The lowest rates in these towns were 13·8 in Burnley, 14·1 in Leicester, 15·3 in Portsmouth and in West Ham, and 15·4 in Bristol; the highest rates were 23·3 in Sunderland, 25·8 in Manchester, 26·7 in Liverpool, and 32·0 in Blackburn. The 4505 deaths in these towns included 363 which were referred to the principal zymotic diseases, against 403 and 240 in the two preceding weeks; of these, 100 resulted from diphtheria, 97 from whooping-cough, 69 from measles, 44 from "fever" (principally enteric), 29 from diarrhœa, and 24 from scarlet fever. No death from any of these diseases was recorded last week in Plymouth; in the other towns they caused the lowest death-rates in Leicester, Preston, Huddersfield, and Halifax, and the highest rates in Swansea, Wolverhampton, Birkenhead, and Blackburn. The greatest mortality from measles occurred in West Ham, Bolton, and Manchester; from whooping-cough in Bradford, Birkenhead, and Sunderland; and from "fever" in Wolverhampton and Blackburn. The mortality from scarlet fever showed no marked excess in any of the large towns. The 100 deaths from diphtheria included 29 in London, 12 in Leeds, 11 in Swansea, 9 in Sheffield, 6 in Liverpool, 5 in Blackburn, 4 in West Ham, and 4 in Birmingham. No fatal case of small-pox was registered last week either in London or in any other of the 33 large towns; and two small-pox patients were under treatment in the Metropolitan Asylums Hospitals. The number of scarlet-fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2575, against numbers declining from 2939 to 2587 on the eight preceding Saturdays; 241 new cases were admitted during the week, against 265, 253, and 202 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 481 and 413 in the two preceding weeks, rose again last week to 484, but were 50 below the average. The causes of 59, or 1·3 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Nottingham, Newcastle-upon-Tyne, and in 11 other smaller towns; the largest proportions of uncertified deaths were registered in Wolverhampton, Preston, Sheffield, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 31·2 and 28·0 per 1000 in the two preceding weeks, further declined to 24·1 during the week ending Feb. 25th, but exceeded by 3·5 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 16·0 in Dundee and 21·9 in Aberdeen to 26·8 in Edinburgh and 29·0 in Greenock. The 737 deaths in these towns included 23 which were referred to whooping-cough, 19 to measles, eight to diarrhœa, five to scarlet fever, five to diphtheria, and four to "fever." In all, 64 deaths resulted from these principal zymotic diseases, against 101 and 76 in the two preceding weeks. These 64 deaths were equal to an annual rate of 2·1 per 1000, which was 0·4 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had declined from 43 to 31 in the three preceding weeks, further fell to 23 last week, of which 10 occurred in Edinburgh and nine in Glasgow. The deaths referred to measles, which had been 22 and nine in the two preceding weeks, rose again to 19 last week, of which nine were recorded in Aberdeen, seven in Glasgow, and three in Edinburgh. The five fatal cases of diphtheria exceeded by one the number in the preceding week, and included two in Glasgow. The deaths from scarlet fever, which had been six and 11 in the two preceding weeks, declined to five last week, of which three occurred in Glasgow. The four fatal cases of "fever" showed a further decline from recent weekly numbers and included two in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 346 and 285 in the two preceding weeks, further fell to 233 last week, but exceeded by 116 the number in the corresponding period of last year. The cause of 34, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined in the three preceding weeks from 31·8 to 27·3 per 1000, rose again to 30·3 during the week ending Feb. 25th. During the past four weeks the rate of mortality in the city has averaged 30·3 per 1000, the rate during the same period being 20·8 in London and 26·8 in Edinburgh. The 203 deaths registered in Dublin during the week under notice showed an increase of 20 upon the number in the preceding week, and included 12 which were referred to the principal zymotic diseases, against eight in each of the two preceding weeks; of these, four resulted from "fever," three from scarlet fever, three from diarrhœa, and two from whooping-cough, but not one either from small-pox, measles, or diphtheria. These 12 deaths were equal to an annual rate of 1·8 per 1000, the zymotic death-rate during the same period being 1·7 in London and 3·0 in Edinburgh. The deaths referred to different forms of "fever," which had been four and two in the two preceding weeks, rose again to four last week. The three fatal cases of scarlet fever exceeded the number recorded in any week since November last. The deaths from whooping-cough, which had been two and four in the two preceding weeks, declined again to two last week. The 203 deaths in Dublin last week included 38 of infants under one year of age and 52 of persons aged upwards of 60 years; the deaths of infants showed an increase, while those of elderly persons were below those recorded in the preceding week. Three inquest cases and three deaths from violence were registered; and 76, or more than a third, of the deaths occurred in public institutions. The causes of 14, or nearly 6 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

Royal Navy Medical Service.

THE following appointments are notified:—Staff Surgeon W. J. Colbourne to the *Boscawen*, for the *Agincourt*. Surgeons: H. O. Whiteside to the *Boscawen* for the *Dolphin*; S. D. T. Halliday to the *St Vincent*, for the *Martin*; J. M. G. Swainson to the *Boscawen*, for the *Seaflower*; A. A. Forrester to the *Boscawen*, for the *Wanderer*; W. G. Westcott to the *Lion*, for the *Liberty*; F. J McKenna to the *Impregnable*, for the *Nautilus*; J. A. Moon to the *Boscawen*; G. B. Brown to the *Sharpshooter*; H. L. Norris, W. W. Keir, P. H. Bannister, H. W. M Rees, and H. C. Gardner to the *Victory*, for disposal; O. Shepherd, J. Stoddart, E. C. Sawdy, and M. W. Falkner to the *Vivid*, for disposal; J. A. Forrest and R. S. Osborne to the *Wildfire*, for disposal; J. K. Raymond and F. R. Mann to the *Pembroke*, additional, for disposal; and H. Huskisson to the *Cambridge*.

Royal Army Medical Corps.

Lieutenant-Colonel J. A. Clery joins at Woolwich. Major C. E. Nichol is posted to the Station Hospital, Western Heights, Dover, for duty. Major Faunce is held in readiness to embark for Malta. Lieutenant R. E. G. Phillips joins at Woolwich and holds himself in readiness for service in India.

India and the Indian Medical Services.

Captain J. O. Pinto (Madras) is appointed to officiate as Civil Surgeon of Amraoti until further orders. Captain C. G. Spencer, R.A.M.C., and Lieutenant H. J. Walton (Bengal) are placed on special duty under the Government of India in the Home Department. Lieutenant-Colonel T. Grainger, Officiating Civil Surgeon of Champaran, is appointed to act as Civil Surgeon of Darbhanga. The appointment of Major J. Shearer, D.S.O., Bengal Establishment, 27th (Punjab) Regiment of Bengal Infantry, to be Secretary to the Principal Medical Officer, Her Majesty's Forces in India, is confirmed.

The Health of the Navy.

We have already alluded in a summary way to the results embodied in the recently published Statistical Report of the Health of the Navy in 1897 by Sir Henry Norbury, K.C.B., the Director-General of the Royal Naval Medical Service. These results are, speaking generally, very satisfactory. They show that progressive improvement has been taking place of late years and that during the year under review it has not only been maintained but that, as compared with the previous year, and, still more, as compared with the average of the previous 10 years, the aggregate number of cases of disease and injury during 1897 exhibit a decreased ratio per 1000, and that as regards the death-rate that for 1897 is below that of any year since 1856 when the reports first appeared in their present form. The most unfavourable returns are from the West Coast of Africa and are mainly attributable to the Benin Expedition which gave rise to an increased amount of invaliding. The surgeon of the *St. George*, Surgeon Frank H. A. Clayton, gives an excellent article descriptive of the Benin Expedition and of remittent fever, of which his ship had a severe experience—viz., 456 cases. He speaks highly of the value of antipyrin in the initial stage of the fever. The medical officer of the *Widgeon*, Surgeon Charles S. Facey, speaks of the fever on board that ship as of a very severe type. The hæmatozoon of Laveran was found in many of the cases of malarial fever which were under treatment; pigmented spherical bodies were the forms most frequently seen and, in addition to these, crescentic bodies occurred in a few patients but always associated with the spherical variety; amœboid movement was visible in all of them. There is a brief but interesting note in connexion with the *Indefatigable* on the West Indian Station about three cases of poisoning by the manchineel tree—in one case giving rise to vesication of the mouth, lips, and tongue from biting the fruit, and in the cases of two officers to an acute form of ophthalmia from standing under the tree in a shower of rain. The text and figures dealing with Mediterranean fever (newly introduced into the nomenclature) and enteric fever prevalent at Malta and Phalerum Bay are interesting and the whole report for 1897 is well worth reading.

The Annual Report on Army Recruiting.

The medical profession take an interest in common with the rest of the nation in the maintenance of the army and one of the duties of army medical officers brings them a good deal into active connexion with the subject of recruiting. We may therefore briefly allude to some of the results embodied in the annual report of the Inspector-General of Recruiting just issued. The return shows that the total number of recruits enlisted for the regular army during 1898 was 40,729; with the exception of the year 1892, during which 41,659 were raised, this is the largest number of recruits in any year since the introduction of short service. There was a net increase of 9980 men during the year. This increase was not, however, entirely due to recruiting, special inducements having been offered to reservists to rejoin the colours, of which 4479 men availed themselves. A large augmentation in the establishment of the Army was, it will be remembered, authorised during the past year. Although the whole of this increase was included in the Estimates for 1898-99 it was decided that the augmentation should be carried out gradually and spread over a series of years and this is now being done. During the past year an important and, as we think, salutary change was also made in the pay of soldiers and increased facilities for obtaining employment in civil life have been afforded to soldiers after leaving the colours. It is too early yet to feel confident of the continued success of these beneficial measures, but the results so far seem to be very promising.

Whitaker's Naval and Military Directory and Indian Army List, 1899.

As a *multum in parvo* encyclopædia of the names of officers of the three sister services the present issue of this handbook would be hard to beat. For purposes of reference an alphabetical list of officers employed under the Union Jack and the Royal Standard is frequently of great convenience to all those who have anything to do with either or all of the services, and Whitaker's is the only list of the kind with which we are acquainted. The addition of the Indian Army list is a special feature of the present volume and greatly enhances its value.

The late Indian Frontier Campaign.

From the official statistics called for in Parliament by Major Rasch showing the extent of in efficiency among the troops during the Indian frontier campaign of 1897-98 attributable to the results of venereal disease, it appears that the total number rejected, because they were disqualified for field service on that account, was 989 and that 492 were incapacitated during the campaign for the same reason.

Deaths in the Services.

Lieutenant-Colonel Poole Robert Gabbett, R.A.M.C., at Southsea, on Feb. 27th. He entered the Army in 1871 and became Surgeon in 1873. Ten years later he attained the rank of Surgeon-Major and reached that of Lieutenant-Colonel in 1891 and of Brigade-Surgeon-Lieutenant-Colonel in 1895. Until recently he was Principal Medical Officer, Barbadoes.

Queen Charlotte's Lying-in Hospital.—The Earl of Hardwicke presided at the annual meeting of governors of this hospital on Feb 27th. The report stated that during the year 1112 patients had been delivered in the hospital and 1070 at their own homes. The expenditure had amounted to £4123 11*s.* 11*d.* and the ordinary income to £3501 17*s.* 1*d.* The Prince of Wales's Fund had made a grant of £300 to the hospital and £50 to the convalescent home. The enlargement of the hospital was nearing completion and the new nurses' home would be opened about midsummer. The chairman, in moving the adoption of the report and accounts, made an urgent appeal for contributions towards the £7000 still needed for the works at the hospital and the new nurses' home.

Correspondence.

"Audi alteram partem."

MEDICAL CONTRACT WORK IN THE COUNTY OF DURHAM.

To the Editors of THE LANCET.

SIRS,—In the county of Durham we are in the midst of a struggle to obtain a higher rate of pay from the miners of the collieries; in some parts we have succeeded beyond expectation, some are wavering, and some are in direct opposition to the change. With patience and gentle forbearance we shall get all to agree to the increase. Our present danger is from those of our own profession who may step in and accept the old terms. I ask for your powerful aid in preventing any such occurrence. Members of the Medical Union are working shoulder to shoulder and will stoutly resist the invasion of strangers, and those of our number who may suffer loss from temporary suspension of pay will be assisted by their more fortunate brethren.

I am, Sirs, yours faithfully,

EDWARD JEPSON,

Durham, Feb. 27th, 1899. President of the Durham Medical Union.

*** Our correspondent will find that we have on more than one occasion urged upon the profession the necessity of supporting one another in this movement and similar movements. We trust that no medical man will be so blind to the interests of the profession which he has joined (and therefore in the long run to his own interests) as to accept lower terms from the miners of Durham than those which the present members of the Durham Medical Union are justly asking.—ED. L.

YERSIN'S PLAGUE SERUM.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Jan. 21st your special correspondent in India states in connexion with my evidence before the Indian Plague Commission that I "had nothing conclusive to say from personal experience" as to the value of Yersin's serum. Will you allow me to state that, on the contrary, I was able from personal experience to give a very definite opinion as to the value of this form of treatment in plague? That conclusion was, I regret to say, unfavourable to the claims of the serum. It was based upon a carefully conducted trial in which 50 cases of plague were submitted to the serum treatment and 50 other cases in the wards at the same time were noted as control cases. As the mortality in each group of cases was the same (60 per cent.) and as there was no perceptible effect whatever upon any of the symptoms I was forced to the conclusion that Yersin's serum is an entirely indifferent substance in the treatment of plague without influence for good or evil upon the course of the disease. I hope shortly to publish notes of the cases.

I am, Sirs, yours faithfully,

Calcutta, Feb. 8th, 1899. FRANK G. CLEMOW.

"REGINA *v.* REICHARDT."

To the Editors of THE LANCET.

SIRS,—If Mr. Sers will turn to the Lunacy Acts he will see that a lunatic is defined as an idiot or a person of unsound mind, and that medical certificates of insanity must state that the person affected is a lunatic, an idiot, or a person of unsound mind. The Scottish Acts, however, permit in addition the use of the term "an insane person." There is therefore no need to differentiate between the phrases "temporary unsoundness of mind" and "temporary insanity." It is of no importance from a legal point of view. Delirium tremens and the delirium of typhoid fever are both manifestations of temporary insanity and persons of unsound mind owing to these toxæmic disorders have occasionally been certified to be insane. That is not of frequent occurrence, for the medical profession is educated to foresee that the mental trouble is temporary and consequent on a physical state which can be corrected without resort to asylum care and treatment. There are no doubt other causes of temporary insanity, causes more obscure and less definite in prognosis, but they are not so difficult to discover by those experienced in these maladies as to require the formidable and complicated legal procedure which has been imposed on the English public.

The question at issue is whether every person who is insane from the medical standpoint should be swept into the asylums of the country or be placed under medical certificates such as at present are in use. Is he "a proper person to be detained under care and treatment and in a fit condition of bodily health to be removed to an asylum"? These are the words of the schedule. The answer must be emphatically "No." It is well known to those directly interested in the treatment of the insane that efforts are being made to avoid the manifest evils of the present system, by introducing into the English law a provision which has long existed in Scotland, whereby those afflicted by temporary insanity can be placed under suitable private care upon the certificate of the medical attendant to the effect that the malady is not confirmed and that such treatment is necessary for a period not exceeding six months. This should have the hearty support of the medical profession in the interests of the insane. Mr. Sers entirely misses the central point of the case in suggesting that Dr. Reichardt assumed a responsibility which he was not called upon to assume. On the contrary, he fortified himself behind the authoritative opinions of Dr. Savage, Dr. Goodhart, and Mr. Kingsford. No evidence in the opposite sense, of similar weight, was adduced by the Commissioners who of course acted on the law as it stands. We may assume that they are well aware of the unsatisfactory results of the present Act which threaten to become worse in time unless remedies are applied. Yet such are the operations of the law that Dr. Reichardt after technically winning his case finds himself most severely fined. Surely there is something much amiss leading to such a fiasco. One calls to mind Mr. Anderson's hard lot when the jury awarded him heavy damages and the Chief Justice of England immediately informed him that he was not permitted to give effect to their verdict.

I urge that the medical profession should fully recognise that not every case of insanity should be sent to an asylum, that the limitations of the present law are prejudicial to the insane and to those who are bound to serve them, and that relief must be sought from the present impasse.

I am, Sirs, yours faithfully,

Feb. 18th, 1899. AN ASYLUM PHYSICIAN.

P.S.—Since the foregoing letter was written the Lord Chancellor has indicated a favourable opinion regarding the principle of the proposed clause in reference to incipient insanity, on the representations made by a joint committee of the British Medical and Medico-Psychological Associations on Feb. 22nd.

INTRAVENOUS INJECTIONS IN SYPHILIS.

To the Editors of THE LANCET.

SIRS,—I was much interested to see the results of intravenous injections of cyanide of mercury in syphilis published by Mr. Chopping in THE LANCET of Feb. 18th. It, however, does not appear to me that these results maintain the advantages claimed for this method of treatment. The advantages claimed are: (1) as the injection is made daily the patient is under constant observation; (2) the exact quantity of mercury introduced into the system is known; (3) the patient is brought more rapidly under the influence of mercury than by other methods; (4) serious lesions clear up more rapidly; and (5) this treatment is useful where other methods fail. The last of these claims is the only one apparently above criticism. With regard to the others: (1) daily injection is irksome and inconvenient both to the patient and the operator and requires many more injections than are given in the intra-muscular method; (2) the "exact quantity of mercury introduced into the system" is not the point in question, which is rather the effect produced on the patient by mercury under any method of administration, and this can only be judged by its effects, not by any method of measuring quantities; and (4) as to grave lesions clearing up more quickly under this treatment, this might be claimed for other methods, for those who have dealt much with syphilis know that similar lesions in different patients vary considerably in their rapidity of disappearance and often yield to one method of treatment after resisting another. The average duration of treatment in Mr. Chopping's cases was just over 23 days, by which I understand the disappearance or healing of the lesions present at the time treatment was begun. From my experience at the Lock Hospital with inunction of mercury I should put the average at about 21 days for primary and secondary cases. With regard to tertiary cases I notice that iodides were given in all Mr. Chopping's cases and therefore the effect produced by the intravenous injection cannot be estimated. The average time for symptoms to disappear under the treatment by pills is, I believe, not more than 21 days. It therefore appears that the intravenous treatment has no advantages over treatment by pills or inunction although it may have an advantage over intra-muscular injection which is painful and, as far as my experience goes, requires a rather longer time for disappearance of symptoms.

I am, Sirs, yours faithfully,
C. F. MARSHALL, M.D. Vict., F.R.C.S. Eng.
Finsbury-square, E.C., Feb 23rd, 1899.

"A FATAL CASE OF LITHÆMIC POISONING."

To the Editors of THE LANCET.

SIRS,—I desire while thanking Dr. Elgood for his very interesting paper in THE LANCET of Feb. 18th to point out to him that he will find a case which presents many symptoms in common with that which he relates on p. 439 of the fourth edition of my work on Uric Acid. The more important of these signs are the gastric disturbance, the high tension pulse, the enlargement of the liver, and the scanty urine; and he will also find that the relation to these of epistaxis, thrombosis, anæmia, and prostration and the final ending in coma are fully considered and illustrated by other cases. The attacks of gout are most interesting and the fact that these came between the attacks of lithæmia while the thromboses came in the attacks almost amounts to a demonstration of my explanation of causation. My patient recovered and has obtained freedom from his attacks as the result of altering his diet; and Dr. Tomson of Luton, whose patient he was, writing to me in February, 1896, some three years after I first saw him, says that he "has not had one of his attacks for more than a year."

I therefore most strongly agree with Dr. Elgood that the case he records is one of poisoning due to lithæmia or, as I have called it, collæmia. The fact which will appear when the whole of my researches have been published is that uric acid controls so completely the circulation of the blood that any accurate measurement of that circulation is a measure also of the quantity of uric acid in the blood and urine and corresponds in every way to this.

I shall presently be able to demonstrate methods by which any third-year student can estimate with considerable accuracy a greater or less quantity of uric acid in the blood or urine and tell almost without instruments and in one or two minutes of time the chief diurnal fluctuations and the pathological alterations of these; and no doubt these methods would have shown very clearly the fluctuations with and between the attacks in Dr. Elgood's case on the careful observation of which I beg to congratulate him.

I am, Sirs, yours faithfully,
ALEXANDER HAIG, M.D. Oxon.
Brook-street, W, Feb. 24th, 1899.

HUNTER *v.* CLARE.

To the Editors of THE LANCET.

SIRS,—In reply to your correspondent, Mr. J. B. Pike, I beg to enclose a copy of a letter from the clerk to the Society of Apothecaries sent in answer to a query of mine as to whether I was, as an L.S.A.—qualified since 1887—entitled to call myself a "surgeon," the query being a consequence of the decision in "Hunter *v.* Clare." I quite agree with the decision of the court and have always considered the use of the word "physician" as bad form in a general practitioner. As I understand the word a physician prescribes for a fee but does not dispense. Webster's Dictionary defines a surgeon as "one whose profession is to cure external diseases whether by manual operation or by medication—externally or internally." The word "apothecary" would be used by the public of to-day as synonymous with "chemist." If the General Medical Council felt the same with regard to the use of the word "surgeon" as "physician," why did they not proceed with that portion of the indictment? I might remind you that the triple L.S.A. entitles its holder to compete for the post of *surgeon* in the army or navy. I should be glad to know your opinion as to the use of the word "surgeon" by an L.S.A. qualified to practise surgery. I am, Sirs, yours faithfully,

C. MONTAGUE LEAKEY.
Tower House, Caistor, Lincs, Feb. 6th, 1899.

[INCLOSURE.]

14, Austin Friars, London, E.C., Jan. 27th, 1899.

DEAR SIR,—The decision of the court in Hunter *v.* Clare does not go further than to lay down the rule that Licentiates of the Society are not entitled to style themselves "Physician." Their position as to the user of the word "Surgeon," in my opinion, remains as before.

Yours truly,
JAMES R. UPTON,
Clerk to the Society of Apothecaries.
C. M. Leakey, Esq, Caistor.

"DIFFICULTIES UNDER THE NEW VACCINATION ACT."

To the Editors of THE LANCET.

SIRS,—I also am a Public Vaccinator and see no cause to be ashamed of the position, as your correspondent "P. P." thinks we all ought to be. For my part I am as keen about the ethics of the profession as the next man and so are all my colleagues I have not the slightest doubt. "P. P.'s" letter strikes me as being altogether silly. It does not ring with a true note. For instance, he says, "If a public vaccinator may call on people of whom he knows nothing except that they have a child unvaccinated and offer his professional services, then I may call at any house where I hear there is measles and offer my professional services." Cannot "P. P." distinguish between the man who is doing his duty under Act of Parliament and the "cadger" (his own expression) unauthorised by anyone trying to force himself in where he is not wanted?

Private practitioners have the game in their own hands—they have simply to take care that all their cases are vaccinated or accounted for to the vaccination officer before they are four months old. 90 per cent. of mothers are glad to get the job over long before that if they mean having it done at all.

I am, Sirs, your obedient servant,
THOS. FREDK. I. BLAKER,
Feb 23th, 1899. Public Vaccinator Preston and Patcham, Sussex.

To the Editors of THE LANCET.

SIRS,—Your correspondents, "L.R.C.P., M.R.C.S.," and "P P.," in THE LANCET of Feb. 18th and 25th respectively, before writing of fellow practitioners as they do should make themselves acquainted with the subject in question and not show such ignorance as especially your first correspondent does. In my opinion there is nothing interfering with professional etiquette in the new Act, for if the law is complied with the public vaccinator exceeds his duties if he calls on any fellow practitioner's patients. The Act says, if the vaccination is not performed within a certain time or reasonable excuse is sent to the vaccination officer, he, the vaccination officer, shall notify the public vaccinator in due form, whose duty it shall be to send in a notice to the parent or person having custody of the child in question giving at least 24 hours' notice of his intention to come and offer to vaccinate. In addition at the foot of this notice, which is known as Form I (copy enclosed), there is a space for the address of the public vaccinator. Now, why is 24 hours' notice given and why is this space left at the foot of the notice? The only reason I can put forward is, so that the receiver may communicate his or her desire as regards the call to the public vaccinator, and may inform him that the family medical man was going to do the operation or was about to postpone it. I presume that would be "sufficient reason for delay" (see General Order, Oct. 18th, 1898, page 7) and the public vaccinator should not call then and may not have to at all.

Your first correspondent writes: "I consider the action of the public vacci

May I say that my opinion of your correspondent's letter is still worse; and if he shows such ignorance over an Act related so closely to his professional work after all this time it is not unlikely that he is equally ignorant in other branches of his profession, which failing may shed a new light on his jealousy of the public vaccinator in his district. Your correspondent "P. P." says, "The public vaccinator accepts the work for the sake of the pay and I might call on a case of measles for a similar reason." The analogy is absurd. Further, he wishes public vaccinators all sorts of trouble.

Both these letters are very unfair and they show gross ignorance of an Act which it is the duty of every practitioner to know. Because your correspondents' patients and themselves do not comply with the law they try to make the public vaccinators answerable. It would be about equally unfair for a solicitor to abuse a policeman for arresting a burglar who happened to be his client, or for a private schoolmaster to rail against a board schoolmaster because he happened to teach children above the general poor, if analogies are required.

I am, Sirs, yours faithfully,

Feb. 27th, 1899. FAIRPLAY.

THE BATTLE OF THE CLUBS.[1]

(FROM OUR SPECIAL COMMISSIONER.)

WESTON-SUPER-MARE.

The Formation of a Provident Dispensary at the Hospital and of a Provident Medical Association by the Medical Practitioners of the Town.

To understand the position of the medical practitioners at Weston-super-Mare it is necessary to realise how rapidly the town has sprung into existence. It is stated that in 1811 this town was but a small fishing village with 163 inhabitants. An Act of Parliament was then obtained by the local landlords and various improvements were effected. In 1828 a village of 250 houses with a population of 1500 inhabitants had come into existence. In 1851 there were 655 houses and 4033 inhabitants. The question of medical care for the poorer section of this population now became urgent and in 1857 a dispensary organised on a charitable basis was established; but the population went on increasing by leaps and bounds. In 1871 it had multiplied to 10,564, and the dispensary had already grown into a hospital. During the first two years, 1866 and 1867, the hospital had only seven beds; but during the next two years it had 16 and 17 beds respectively. After that for eight years there were 20 beds, and as the number of in-patients soon exceeded 200 per annum the number of beds was increased to 32 in 1879, and there are now 35. The population amounted to 12,872 in 1881, and it now exceeds 20,000. During these years there was a corresponding growth in the number of out-patients who attended the hospital. In 1866, the first year of the existence of the hospital, there were 923 out-patients. In 1876, the number had doubled—i.e., 1832. The maximum was reached in 1879 when there were 2968 out-patients. As the house surgeon had to go to see such patients as could not be admitted into the hospital and were too ill to attend as out-patients it soon became evident that he was overworked. It was then suggested that if a provident dispensary was organised in connexion with the hospital the services of another house surgeon could be engaged and the pressure on the hospital would thus be relieved. The idea was good in principle, but in those days no one had any experience of the evils which might arise. It was on July 1st, 1886, that the provident dispensary was opened. The services of a second resident surgeon were engaged. He is provided with free quarters at the hospital and receives a salary of £87 6*s.* 9*d.* per annum.

The hospital dispensary serves for the members of the provident dispensary and the committee which manages the hospital likewise manages the dispensary. Here, then, and from the very commencement, is a fundamental error. This committee is elected by the subscribers and donors to the hospital; the committee which manages the provident dispensary should be elected by those who by their work or their money maintain the dispensary. How can a committee of the subscribers to the hospital claim a right to decide how the pennies paid each week to the provident dispensary shall be spent? It may be said that the hospital helped the provident dispensary, but in that case the hospital committee have only the right to claim a share in the management of the dispensary, which shall be in proportion to the help which they have given. Now, the accounts for the year 1897 show that the receipts due to the weekly penny payments received from the members amounted to £335. Entrance fees swelled the total to £356. The expenses did not equal this amount and there was a balance of £179 19*s.* 1*d.*, which, however, was not kept for the benefit of the provident dispensary but handed over to the credit of the hospital general account, so that to-day it is not the hospital that is helping the dispensary but it is the dispensary that is handing over hard cash to the hospital, and yet the hospital committee claim the right to govern the dispensary. It is true that the hospital management is careful to explain that this sum of £180 is not all profit. They state that the maintenance of the medical officer specially appointed to attend upon the members, and who resides in the hospital, is paid out of the general fund and the cost of the drugs and so forth dispensed to the members is defrayed from the same source in the first instance, so that the hospital has to be reimbursed for these charges before any question of profit can arise. On looking into the details of the accounts, however, it will be found that out of the dispensary funds the medical officer's salary is paid, and £20 are given to the dispensary. From the balance of (in round figures £180) the hospital has the right to claim rent for the premises occupied and for the drugs dispensed. But even if a liberal allowance be made for this a profit would still remain. The medical officer of the provident dispensary by his work and the members by their subscriptions have produced an income which exceeds the expenditure. Is it right that they should be made to hand over all the net profits that arise to the hospital without being able to have a voice in the matter?

The hospital authorities say that it is not possible to apportion the cost of the drugs between the in- and out-patients attending with subscribers' notes and the provident dispensary members. Yet the average cost of the treatment of each patient is well known and the number of patients who are hospital patients and of those who are dispensary patients is likewise easy to ascertain. The computation which would be made might not be mathematically exact, but in any case it would be more correct than the present simple but arbitrary process of pocketing all the profits. At all events, those who create these profits ought to have a voice in their disposal. The hospital medical staff have the right to sit *ex officio* on the management committee but they have a right to only three votes. As the lay members of this committee number 15 members the medical staff, though they do the greater part of the work, are absolutely outnumbered. It should be one of the objects of the association formed by the medical men practising at Weston-super-Mare to increase their voting power on the general committee of the hospital. These criticisms, however, must be taken as purely theoretical. I have not heard any complaints as to the hospital management. On the contrary, one or two medical men whom I have questioned on the matter have assured me that they thought that the hospital committee managed affairs "fairly well." It was also pointed out to me that the medical officer of the provident dispensary derives some advantage from the fact that he resides at the hospital. Though it is his duty to attend first and foremost to the dispensary subscribers still he is able in his leisure moments to see the hospital patients, to attend at operations, and thus to increase his general experience.

The creation of a dispensary in connexion with the hospital has led to an important revelation. There are no complaints as to abuse. The town is small, the respective positions of its various inhabitants are known, and it would be difficult for anyone to present himself at the hospital under false pretences. Yet though nearly all the patients were poor it soon became evident that the majority could have paid something and that they had no desire to be the recipients of charity. The maximum number of out-patients seen was 2968 in the year 1879. Since that date there has been a steady decrease to 2702 in 1880, 2009 in 1884, and 1898 in 1885. The number in 1886 was 1688 and the

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A reprint of the previous articles on the above subject has been published in book form entitled "The Battle of the Clubs," and can be obtained from THE LANCET Offices; price 1*s.*

provident dispensary had been started on July 1st of that year. That the decrease of out-patients is due to this fact is proved by the figures of the following year when there were only 795 out-patients. In the year following the number was 812, then it fell to 702 in 1889, to 595 in 1890, and in 1897 it was only 552. If we take the average of the last five years the number of out-patients at the hospital was 585 per annum. If, on the other hand, we take the average for the five years preceding the creation of the provident dispensary the number of out-patients was 2230 per annum. Thus it may be said roughly that not only were close upon three-quarters of the out-patients in a position to pay a small subscription, but that they actually did pay such a subscription when the opportunity was afforded them to do so.

These figures are most interesting, particularly as there is no special reason to believe that they apply only to Weston-super-Mare. The same experiment tried elsewhere might bring about similar results. Indeed, the success of the Saturday Hospital Fund in so many towns is a different manifestation of the same spirit which has led the poorer classes of Weston-super-Mare to financially support the hospital provident dispensary. These facts unfortunately have been better analysed and appreciated by speculative financial companies who build up fortunes by the wholesale collection of pennies from the poor than by the members of the medical profession. Thus the Liverpool and Victoria Legal Friendly Society sent its agents to canvass the town. All who would ensure their lives at the rate of a penny or more per week obtained on the payment of another penny medical aid when sick. This insurance company brought down medical officers of its own to Weston-super-Mare and its collectors and agents touted for these new-comers to the detriment of the old-established practitioners and to the degradation of the profession. The whole series of well-known abuses followed in due course. There was no wage limit. The medical men employed were sweated and if they complained new men were brought into the town. One practitioner employed by this insurance company had to attend a patient once every week for six months though he lived at a distance of four miles. During the last week the patient had to be seen every day at his distant home. Nevertheless, this patient only paid 4*s*. 4*d*. per annum, out of which the medical attendant received only 3*s*. and had to provide at his own cost all the medicines required.

In the face of these grievances which had lasted a few years and were becoming more and more acute the local practitioners determined to take action. The first meeting for this purpose was convoked on July 24th, 1896, and of 18 available medical men 10 attended. Those who were not present had been detained by patients and through other causes and were not absent through any feeling of indifference or hostility to the movement. On the contrary, the greatest unanimity prevailed from the very first and there was not any of that rivalry as to leadership which has marred similar movements in other towns. Nor did the hospital staff stand aloof; they, on the contrary, took an active part in what was being done. The resolution carried at the first meeting by the 10 medical men present was sent round and was signed by seven others who had not been present. The terms of the resolution agreed upon were as follows:—

> We, the undersigned medical practitioners of Weston-super-Mare, having duly considered the position of the Medical Aid Association and having obtained advice from medical men elsewhere who are best acquainted with similar associations, hereby agree to decline (1) to meet in consultation any medical man connected with medical aid and similar associations; (2) to assist him in operating or in administering anæsthetics; (3) to meet him in consultation upon patients other than those of the association, and (4) to have any professional intercourse with him. In the interests of humanity, however, we do not refuse our advice and assistance to members of the association or to other patients of the association's medical officer on the condition that he previously retires from the case.

There was another clause to the effect that this did not apply to *bonâ fide* working men's benefit societies such as the Oddfellows, &c. This, however, in itself did not suffice. It soon became evident that the insurance companies could only be fought by giving the public the option of something else organised on better lines. Therefore it was ultimately decided that the medical men should organise a medical provident association of their own and this was no easy matter. A sub-committee was appointed to work out a scheme and they had to meet over and over again to discuss the details. But at last a workable plan was adopted together with a suitable set of rules.

Weston-super-Mare, Feb. 27th.

(*To be continued.*)

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Inquests held by the Coroner of Liverpool in 1898.

DURING the year 1898 1632 cases of death were reported to, and investigated by, the coroner for Liverpool. Inquests were deemed unnecessary in 655 of these cases. Inquests were held on the bodies of 600 males and 377 females, making a total of 977, the sex, ages, and legitimacy or otherwise being accounted for as follows. Infants (legitimate) under one year, 90 males and 76 females; of one year and under seven years, 61 males and 39 females. Infants (illegitimate) under one year, nine males and five females; of one year and under seven years, two females. Children of seven years and under 16 years, 31 males and 17 females. Youths of 16 years and under 25 years, 29 males and six females. Adults of 25 years and under 60 years, 306 males and 177 females. Aged 60 years and above there were 74 males and 55 females. Post-mortem examinations were made by order of the coroner in 84 cases. Accidents accounted for the deaths of 245 males and 152 females. 75 males and 53 females were suffocated whilst in bed with parents or otherwise. 107 males and 82 females died from excessive drinking. 41 males and 12 females committed suicide while insane. Verdicts of murder were returned in four cases (females) and of manslaughter in four cases (males). 18 males and four females were found drowned. Want and exposure to cold accounted for two male deaths. 63 males and 43 females died from natural causes. Five males and two females were stillborn. Five males and eight females died from want of attention at birth. Inquests were held on the bodies of 11 male and 15 female newly-born children.

Closure of the Liverpool Lock Hospital: Opening of an Out-patient Department.

On the plea of insufficiency of funds the committee of the Liverpool Royal Infirmary have decided to close the Lock Hospital as regards the reception of in-patients early in March. It has been arranged to carry on the institution as an out-patient department of the Royal Infirmary. It is hoped that the students of University College will in this manner still be afforded the opportunities hitherto enjoyed by them for the clinical study of syphilis and other special diseases. It may be mentioned in this connexion that the Royal Infirmary and the other general hospitals in the city refuse admission to patients suffering from venereal affections, so that in future the workhouse will be the only refuge for the respectable poor who have contracted syphilis not through their own misconduct. Everyone is aware of the ravages of syphilis in its later manifestations, especially in neglected cases. An analysis of cases treated in the medical wards of general hospitals shows that a large proportion of nervous and allied diseases have had their origin from this source. It would be a wiser and a more humane policy for the general hospitals to afford facilities for the admission as in-patients of those suffering from syphilis in its early stages when it is fairly amenable to treatment than to await the period when the diagnosis shall have become obscured and the disease, in a majority of cases, shall have reached a stage which resists treatment. The example set by hospitals like St. Thomas's, St. Bartholomew's, the London Hospital, the Middlesex Hospital, the Edinburgh Royal Infirmary, &c., where these cases are admitted, might with benefit be imitated by hospitals of less repute. In the January number of the *Liverpool Medico-Chirurgical Journal* will be found an interesting communication from the pen of Mr. F. W. Lowndes on the Study and Treatment of Venereal Diseases, especially Syphilis, in which the whole subject of lock hospitals and lock wards in general hospitals is treated in an able and exhaustive manner. In alluding to the Liverpool Lock Hospital he states that it provides the only accommodation in Liverpool for males and females suffering from primary syphilis, severe cases of gonorrhœa with its complications of bubo, swelled testicle, &c. It has received in the past many English and foreign seamen of all nationalities, to whom it has been of the greatest service, not only curing their diseases but making them seaworthy and able to gain their living. It has afforded relief to many married women and children who have been infected with loathsome diseases through no fault of their own; and he asks in all earnestness, Could there be more deserving objects of the charity of the benevolent? The Royal Infirmary, as a teaching hospital intimately connected with University College, ought to provide some beds for the reception of patients suffering from severe forms of early syphilis. If it cannot afford to maintain the Lock Hospital as a separate establishment some means can surely be found whereby a few beds could be set apart for that purpose in the infirmary, following the examples of the London and Edinburgh hospitals mentioned above. It provides a few beds for ophthalmological cases, and very properly so, but it is difficult to understand how syphilitic iritis or retinitis occurring in patients who have acquired disease through their own misconduct should receive more consideration than syphilitic manifestations on other parts of the body which may have been acquired through no fault of unfortunate sufferers, such as glassblowers, midwives, married women, and others. There is a strong feeling, not confined to members of the medical profession, that the closure of the Liverpool Lock Hospital is a mistake and the fact is received with surprise and incredulity by those who hear of it for the first time.

Liverpool Stanley Hospital: Grave Financial Condition.

The financial outlook of the Stanley Hospital is unfortunately in a very critical condition. A tone of despondency prevailed amongst all the speakers at the recent annual meeting. The hospital is situated in the north end of the city, and is in proximity to the docks where accidents are of frequent occurrence. It consequently does a large amount of useful work. Last year 662 surgical cases were admitted to the hospital as in-patients. The out-patient department is a large one; no less than 8604 surgical cases and 4898 medical cases were attended to during the year 1898. The total attendances, including special cases, reached the total of 17,686. It is a question whether the increasing deficit, which at the end of the year had reached the sum of £1865 7*s.* 3*d.*, may not eventually result in the closing of the hospital. The ordinary income for the year, including £369 7*s.* 4*d.* from entertainments and a special church collection, amounted to only £2835 11*s.* 7*d.*, and the ordinary expenditure exceeded that amount by £860 11*s.* The subscription list is limited to 548 individuals who are mostly in affluent circumstances; whereas the general public hold back their assistance, whether by reason of indifference or from the pressure of the local rates, which are now very burdensome and are likely to increase rather than diminish, is a moot point. The Stanley Hospital has had a very creditable record as regards its medical staff, five of whom are now on the staff of the Royal Infirmary, comprising two surgeons, one physician, and two assistant physicians.

Liverpool Eye and Ear Infirmary: Annual Report.

The financial position of the Eye and Ear Infirmary opened at the beginning of 1898 with a credit balance of £112 8*s.* 10*d.*, but it closed with a debit balance of £368 12*s.* 1*d.* The reduction of income was due to the falling off in donations and legacies. For the first time for many years not a single legacy had been received, whilst the donations were £51 4*s.*, as against £261 5*s.* 6*d.* in 1897. The sum of £480 was received from the Hospital Sunday and Saturday Fund. The report states that 6149 new eye cases and 2121 new ear cases had been treated during the past year in the out-patient department. The number of minor operations on out-patients was 1147. 709 patients had occupied beds in the infirmary and the number of important operations in this department was 576. Mr. H. H. Hornby has resigned the position of honorary treasurer, which he had held for 25 years.

The Guardians of Liverpool and the Treatment of Tuberculosis.

At a conference of Poor-law guardians representing the three large unions of Liverpool held in the board-room of the West Derby Union it was unanimously decided to make an effort to treat cases of tuberculosis amongst the poor, and in furtherance of this view it was agreed to erect a sanatorium in some suitable locality for the treatment of early cases. This is the first instance in which Poor-law guardians have taken such a generous and enlightened view with regard to the subject of tuberculosis, and it is to be sincerely hoped that the good example will be followed by other boards of guardians throughout the country. A complete scheme has been drawn up by Dr. Nathan Raw, medical superintendent of Mill-road Infirmary, which has regard to the treatment of early cases in sanatoria and the isolation of chronic or hopeless cases in separate wards of Poor-law infirmaries, together with the necessary precautions to prevent the spread of the disease.

Bequests to Liverpool Hospitals.

The Royal Infirmary has received £1000 and the Royal Southern Hospital, the Northern Hospital, the Stanley Hospital, the Bootle Borough Hospital, the Infirmary for Children, and the Outdoor Maternity Charity, Brownlow-hill, £500 each, the bequests of the late Miss Mary Anne Macneilledge of Liverpool.

Liverpool Northern Hospital.

Mr. R. W. Murray, F.R.C.S. Eng., honorary surgeon to the Liverpool Infirmary for Children, has been appointed honorary surgeon to the Northern Hospital in the room of the late Mr. Arthur H. Wilson.

The School of Tropical Diseases.

A meeting of the committee of the Liverpool Association of Foreign Consuls was held on Feb. 27th in the office of the Brazilian Consulate for the purpose of taking into consideration the Liverpool School of Tropical Diseases and its recognition by the Governments of the various consuls. The company having been addressed by Mr. Alfred L. Jones, as representing the Congo Free State, and by Mr. Ehrenberg, consul for Sweden and Norway, it was agreed to hold a general meeting of the consuls on March 9th so that they might be better able to inform their Governments on the subject. Professor Boyce then explained that four courses of two months each would be given to qualified men every year. Liverpool, he thought, was the best possible place in which to establish such a school, as they had examples of the diseases in question brought from all the tropical regions of the world. Besides instructing qualified medical men who would have appointments on shipboard or intended to practise in tropical countries they would admit missionaries to the classes and would also train black women as nurses.

Feb. 28th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Retirement of Dr. John Sibbald, Commissioner in Lunacy.

DR. JOHN SIBBALD, who has filled the office of Commissioner in Lunacy for 21 years, will retire under the age limit at the end of March. In Dr. Sibbald's case there has been a nine months' extension of his period of service. Dr. Sibbald was educated at Edinburgh University and took the degree of M.D. in 1854. In connexion with asylum work he has filled various posts. For some years after graduation he was an assistant physician in the Edinburgh Royal Asylum. In 1862 he was appointed superintendent of the Argyll District Asylum and in 1870 he was made a Deputy Commissioner in Lunacy. He received his present appointment in 1878. Dr. Sibbald was co-editor of the *Journal of Mental Science* from 1870 to 1872 and in 1877 he was the Morison lecturer on Insanity to the Royal College of Physicians of Edinburgh. Among his literary contributions may be mentioned "Clinical Instruction on Insanity," "Gheel and Cottage Asylums," "Lunacy Administration in Berlin and in Scotland," and "Plans of Modern Asylums." In "Plans of Modern Asylums" Dr. Sibbald gives a full account of the Alb-Scherbitz Asylum in Prussian Saxony which has led to the adoption of similar plans for the new hospital for Edinburgh at Bangour. As a Commissioner in Lunacy Dr. Sibbald has done much to improve the condition of the insane in asylums and private institutions and has won the respect and confidence of superintendents of asylums throughout the country.

Edinburgh New Town Dispensary.

At the annual meeting in connexion with the Thistle-street dispensary held on Feb. 23rd the medical officers' report stated that 8164 cases had been dealt with at the dispensary and of these 764 patients had been seen in their own homes. The institution had recently lost many friends through death and the subscriptions were less than they had been in the previous year. The expenditure, however, had also been less and there had been an increase in the legacies.

Funeral of Professor Rutherford of Edinburgh University.

On Feb. 25th Professor Rutherford's body was conveyed from his residence, at Douglas-crescent, Edinburgh, by rail to Belses Station and thence by road to Ancrum Churchyard. A large number of the University professors and students were present at the service which was conducted in his house at 9 A.M. by the Rev. Dr. Scott of St. George's. A number of beautiful wreaths were sent, among them being wreaths from Sir William Muir, from the present members of the late Professor Rutherford's class, from former assistants, from members of the South African Students' Union, from the Students' Representative Council, from the past and present University lecturers, from the members of the Australasian Club, from the assistants and research workers in the Physiological Laboratory, and from the residents of the Royal Infirmary. After the arrival of the train at Belses the coffin was carried shoulder high from the carriage to the hearse by members of the late Professor Rutherford's class and of the Students' Representative Council. When the churchyard was reached the coffin was again carried by students from the churchyard gate to the grave. Among the pall-bearers were Professor Simpson, representing the Royal College of Physicians and the University of Edinburgh; Dr. Carlier, assistant to the late Professor Rutherford; Mr. Carnegie Dickson, representing the students; Dr. Rutherford of Kelso, and several other relatives; Professor Stirling, Owens College, Manchester; and Professor de Burgh Birch, Yorkshire College, Leeds. Former assistants of the Professor were also present at the interment.

Royal Edinburgh Asylum for the Insane.

The annual meeting of the Corporation of the Royal Edinburgh Asylum was held on Feb. 27th. From the report of the managers it appeared that the average daily number of patients under treatment showed an increase of 23 on the numbers for last year. The ordinary revenue amounted to £53,362 6*s.* 5*d.* and the ordinary expenditure, including interest, to £48,951 11*s.* 7*d.*, leaving a surplus revenue of £4410 14*s.* 10*d.* From this surplus the annual instalment towards liquidation of the West House debt, amounting to £1727 4*s.* 7*d.*, had to be subtracted, leaving a free surplus of £2683 10*s.* 3*d.* The surplus derived from Craig House was greater by £1413 9*s.* 6*d.* than the surplus in 1897. The surplus derived from intermediate patients exceeded what it was in 1897 by £9 18*s.* 11*d.* The cost of maintenance per head of the latter class of patients had been £40 12*s.* 9¾*d.*, the rate of board chargeable for them being £42 per annum. Although in February, 1898, the managers had been compelled to raise the rate of board chargeable for pauper patients from £30 to £31, they had been disappointed in their expectation that the additional £1 of board would be sufficient to meet the cost of maintenance. During the year the cost of pauper maintenance had been £32 1*s.* 10¾*d.* per head, so that there was a deficit in that department of £740 9*s.* 3*d.* They feel, therefore, obliged to raise the rate of pauper maintenance to £32 per head for the year commencing April 1st, 1899. The increased expenditure in this department during 1898 was due to a rise in the price of flour and potatoes, the former during the greater part of the year being 3*s.* per bag dearer, while the latter had shown an increase in price of 10*s.* per ton. During the year the West House had been provided with a new boiler and boiler-house and the drainage system of that building had been reconstructed at a total cost of £1613 16*s.* 2*d.* The asylum had been visited in March by Dr. Sibbald and in November by Dr. Fraser, Commissioners in Lunacy, the reports by these gentlemen being highly satisfactory. Dr. Fraser, however, referred to the increase in the number of pauper patients and the overcrowding of West House, with the consequent difficulty in accommodating private patients at the lowest rate of board. In connexion with this point the managers reported that arrangements are being made with the District Lunacy Boards of Stirling and Lanark to provide accommodation within their districts for 60 patients from the West House. The report of the physician-superintendent, Dr. Clouston, stated that the average number of patients resident during the year was 910, of whom 447 were men and 463 women. The number of admissions—451—was the largest the managers ever had in any year except in 1894 and 1896, and had they been able to admit all the patients who applied at the lower rates of board would have been one of the highest on record. Dr. Clouston found, in reviewing the 25 years during number of patients sent to the asylum had risen gradu by 23 each quinqenniad, and last year they had rece about 200 patients more than in his first year. increase had taken place more among the rate-paid the private patients. He believed this increase was li to continue, not from any actual increase of insanity the country, but because the benefit and convenienc asylums for the insane were being more realised by community. The great aim of modern medicine was prevention of disease and its next aim was to get dis under control in its early stages. In most cases of insa one had to come to the conclusion that the disease co not have been prevented, it being usually due in the place to a predisposition to nervous instability and in second place to events in the patient's physiological his circumstances, or his surroundings over which he others had no control. Many of the cases, however, ar from over-indulgence in alcohol and immorality. Clouston went on to speak of old age in relation to insan It would evidently be an important aim of the men medicine of the future to teach how the brain might deve safely and grow old safely. He had daily evidence of thing—that after 50 years of age men and women should more careful of alcohol, of excesses, and of avoiding causes of rheumatism, gout, bronchitis, &c., because th diminishing nerve energy was less capable of coping w these enemies of health. The death-rate in the asylum dur the year had been 11·3 per cent. on the average num resident, this being 3 per cent. more than the rate in royal and district asylums of Scotland in 1897. Clouston concluded by referring among other points to favourable opinions expressed by visitors to the institut during the meeting of the British Medical Association in summer, to the fruitful work done by Dr. Ford Robertson the Scottish Asylums Laboratory, and to the appointment Dr. Middlemass to Sunderland Asylum. Dr. Clouston a said that at the conclusion of 25 years' service he app ciated more and more highly the continued kindness a indulgence of the Board of Ordinary Managers.

Edinburgh Royal Infirmary Managers.

At the meeting of the managers of the Edinburgh Roy Infirmary held on Feb. 27th sympathetic references we made to the death of Sir John Struthers and of Profess Rutherford. It was agreed that copies of a minute recordi their sorrow at the death of their friends be sent to t relatives of each. At the same meeting Dr. Allan Jamies was re-appointed for five years as physician for diseas of the skin and Mr. William Guy for one year as dent surgeon.

The Water-supply of Aberdeen.

In the summary of the vital statistics of Aberdeen for 18 just issued by Professor Matthew Hay, M.D.Edin., medic officer of health of the city, he, while admitting that the hig death-rate during the year referred to from gastric an intestinal irritation cannot be definitely ascribed to th water-supply, that the deaths from diarrhœa were under th average and that the prevalence of typhoid fever was no greater than usual if the cases due to milk infection are e cluded, goes on to say: "Nevertheless, I feel it my duty t emphatically state that as long as the aqueduct remains i such a condition that at any one point in its course sewag may at any one time find its way into the water, and as lon as the water-supply is drawn from a river open at severa points to sewage pollution and such water-supply is no filtered, then so long does the city run the risk of being sub mitted at any moment to a serious and widespread epidemi of diarrhœa, typhoid, or cholera."

Aberdeen City Hospital.

The salary of the resident physician at this hospital ha been fixed at £75 with residence for the second year's servic It commenced at £50 only.

New District Hospital near Aberdeen.

The Aberdeen District Committee of Aberdeen Count Council has agreed to erect a district hospital for infectiou diseases (14 beds) at Summerfield, near the city of Aber deen. The estimated cost is £4000 and Mr. J. D. Watson county engineer, is architect. It is the wish of the com mittee that the building should be finished and quite dr before October next.

Aberdeen Natural History and Antiquarian Society.

The following office-bearers have been appointed:—

Vice-President: Mr. William Ferguson, LL.D., of Kinmundy. Secretary: Mr. Robert M. Clark, B.Sc., assistant to Professor Trail. Treasurer: Mr. James Spence of Pow.

Lord Rectorship of Aberdeen University.

The students are already moving as to the selection of a Lord-Rector to succeed the Marquis of Huntly in November next. The names of Lord Aberdeen, Lord Rosebery, and Sir David Stewart, ex-Lord Provost of the city of Aberdeen, have been suggested as candidates and in any event a contest is expected.

Feb. 28th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irish Poor-law Medical Service.

A MEETING of the medical profession will be held at the Royal College of Surgeons in Ireland on March 2nd in connexion with the reforms of the Irish Poor-law medical service. The President of the Irish Medical Association will occupy the chair and in addition to others the following have promised to address the meeting: the Presidents of the Royal College of Physicians and of the Royal College of Surgeons, the Regius Professor of Medicine, Trinity College, Dublin, Sir William Stokes, Sir Thornley Stoker, Sir Charles Cameron, and others.

The University Question.

The vexed question of university education in Ireland is still much discussed and two most important letters have appeared, one from the President of Queen's College and the other from Professor Dill, M.A., late Fellow and Tutor of Corpus Christi College, Oxford, both strongly advocating on academic grounds the establishment of a university in Belfast on the lines proposed by Mr. Balfour. At a meeting of the Belfast Medical Students' Association the following resolutions were passed:—

1. That the present state of university education in Ireland is unsatisfactory.
2. That the establishment of denominational universities cannot fail to be detrimental to medical education in Ireland.
3. That the Royal University of Ireland should be maintained but that the various public colleges should be adequately endowed.

Lisburn Infirmary.

It appears from the annual report that for the year ending Nov. 30th, 1898, there were 370 patients under treatment in this infirmary. During the same period there were 607 extern cases and as regards both in- and out-patients there is an increase over previous years. There were 244 accidents attended to during the year. 40 operations were performed. The house adjoining the infirmary having been added to the hospital the nurses have been moved into it and it is expected that shortly wards will be opened in it for private patients.

Nursing in Irish Workhouse Infirmaries.

The Local Government Board are determined that they will not recognise nurses who have not received training for less than two years in a clinical hospital. The matter came on for discussion at the Londonderry Board of Guardians on Feb. 25th, when it was complained that the Local Government Board were endeavouring to confine the teaching of nurses in Ireland to Dublin and Belfast, a line of action which would be resisted by the county infirmaries and other hospitals. One of the guardians (a medical man) stated that it would be impossible for boards of guardians to get a nurse fully qualified according to the rules of the Local Government Board unless salaries of over £40 yearly were offered.

The Belfast Royal Hospital.

The quarterly meeting of the friends of this charity was held on Feb. 27th and was of interest as being the last meeting of the old hospital because the new revised charter by which the Royal Hospital is submerged in the new Royal Victoria Hospital became law on Dec. 12th, 1898, and under its conditions the annual meeting of the new corporation must be shortly held at which a new board of management must be elected. The balance due by the hospital on Oct. 31st was £3228 16s. To meet this the board decided to raise £3000 by the sale of invested capital. For the five months ending Jan. 31st £3518 9s. have been received from all sources, while the expenditure has been £4689 9s. 6d., being an outlay over receipts of £1171 0s. 6d. The debt against the hospital at the close of the last financial year was £2164 12s. 11d.; up to the end of the present quarter the debt was £1662 14s. 5d., but this will be covered by the sale of securities. A sum of £440 was realised through the sale of tickets to view the launch of the *Oceanic* and Lady Henderson (wife of the late Lord Mayor) collected from friends a sum of £150 for the charity. On Jan. 16th of this year the new Royal Victoria Hospital came into existence, when practically the old "Royal" ceased to exist and became merged in the new charter. A meeting of subscribers to the old and the new hospital will shortly be summoned to elect the new board of management and under the terms and conditions of the new charter only life governors and annual subscribers of £2 2s. and upwards will have the right to exercise the power of voting at such meeting. During the past quarter there were 599 intern (379 surgical and 220 medical) and 5851 extern cases.

Death of Dr. William C. Townsend of Cork.

I announced last week the death of Dr. William C. Townsend who for many years was the senior member of the profession in Cork. 60 years ago he commenced practice. Early in his career he was appointed one of the medical officers of the Cork Union Hospital and recognising the advantage country air would prove to the numerous tuberculous children in that institution he earnestly urged the guardians to adopt the boarding-out system. This advice was acted on and he had the satisfaction of knowing in after years that through his instrumentality many little ones, who had they remained "cabined, cribbed, confined" would have eked out a short and miserable existence, grew up vigorous and healthy members of the community. Dr. Townsend afterwards became visiting physician to the Cork South Infirmary and many of his pupils now scattered all over the globe will have a kindly recollection of his assiduous, sympathetic care of his patients and of the great zeal which he displayed in imparting to his class the information he had gained as an intelligent, observant, clinical diagnostitian. He was also visiting physician to the Cork District Lunatic Asylum and for many years had an extensive practice in the south of Ireland as a consulting physician. He had attained the ripe age of 81 years and all the public bodies in Cork expressed respect for his memory by passing votes of condolence with the members of his family.

March 1st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Rating of Private Hospitals.

A SOMEWHAT singular situation has arisen with regard to the rating of private hospitals (*cliniques*). Formerly these institutions were exempt from any tax inasmuch as they served the cause of charity as well as that of education. In 1894, however, the Chamber of Deputies raised all the taxes imposed upon the liberal professions, those of medical men being raised from one-twelfth to one-fifteenth of their rent. At the same time the tax commissioners assessed medical men who owned private hospitals not only on the rental of the hospital but also on the rental of the owners' private rooms, so that the rate payable was very largely increased. Dr. Vignes, a well-known Paris ophthalmic surgeon and the registered owner of an important private hospital, was anxious to find some way of avoiding this rate and as the rate upon *maisons de santé* is much lower than that upon private hospitals he registered his establishment as a *maison de santé*, this being quite a natural course because he had a number of beds and because he performed operations. The Council of the Prefecture, in giving judgment on appeal in this case, decided that Dr. Vignes's establishment was a real private hospital because he did not occupy the whole of the building. Dr. Vignes therefore had to pay the higher rate exacted from medical owners of private hospitals. In the meantime the Boisleux case occurred and the Prefect of Police ordered a very strict inspection of all *maisons de santé* to avoid any similar scandals in future. An inspector accordingly arrived at Dr. Vignes's establishment. Dr. Vignes, however, refused to admit him, saying with perfect truth that the Council of the Prefecture had decided that his establishment was really a private hospital and not a *maison de santé*. He also showed the inspector the receipt for the rate paid upon this assessment. The inspector was deaf to all remonstrances and made a forcible entry, when he found several female patients who had recently been operated upon in bed. The next thing was that Dr. Vignes was prosecuted for keeping a clandestine *maison de santé* and was condemned in heavy damages, while the establishment was ordered to be closed. This judgment, which shows the spite with which the tribunals pursue medical men, has astonished the members of that profession. It may be useful if I explain at somewhat greater length the difference between a *maison de santé* and a *clinique*. A *maison de santé* is a private nursing home, a purely commercial institution kept by a proprietor who is not necessarily a medical man but who receives patients for medical men who keep such patients under their own care. The patients may be medical, such as weak-minded persons, morphiamaniacs, and the like, or they may be surgical and simply go into the house for an operation. Many *maisons de santé*, especially the surgical kind, are managed by one or other of the religious communities. The *clinique*, on the other hand, belongs to one particular medical man who gives gratuitous advice. In practice, however, many *cliniques* derive their importance from possessing a few beds where the medical man receives patients for operation at low fees, the responsibility both administrative and medical being his alone. This kind of *clinique*, it will be seen, bears a close resemblance to a *maison de santé* owned by a proprietor who happens to be a medical man and from a confusion of ideas arose the incident which I have narrated.

On the Use of a Mask during Operations.

At the meeting of the Society of Surgery held on Feb. 21st, Professor Berger read a paper on the Use of a Mask by the Surgeon during Operations, especially in cases of abdominal section. According to him the particles of saliva given off by the surgeon during an operation form a by no means unimportant source of infection. He had noted the fact through bacteriological experiments that although the silk and other materials used for sutures were always perfectly aseptic before use, yet when once in contact with the wound they gave rise to stitch abscesses which though not very serious, yet healed with difficulty and were very tiresome. Since he had taken to using a mask he had noticed that his operation results had greatly improved. Of 70 operations for the radical cure of hernia performed since Oct. 1st, 1897, the date at which he first commenced the use of the mask, suppuration had occurred only in two, whereas formerly suppuration occurred in one out of every five or six cases.—Professor Tarnier said that for his part he had never used a mask and probably never should do so. He considered that sutures were infected by the hands and not through the agency of the breath. He had tried the effect of his hands upon gelatin plates both before and after operations and found that at the end of an operation they were septic. Sutures must be handled as little as possible and always taken up with forceps so as to avoid infection.—In reply Professor Berger contended that if the stitches came away it was not because they were infected but because they came from an infected wound.

An International Congress of the Medical Press in 1900.

At the last meeting of the French Medical Press Union the question of a congress of representatives of the medical press to be held at the great Congress of 1900, an idea which had been submitted at the previous meeting by Dr. Blondel, came up for discussion. The chief subject of inquiry was as to whether this congress should be a mere sub-section of the great International Congress or an independent congress. This latter view of the matter was the one finally taken in accordance with the terms of a report drawn up by Dr. Blondel, whose conclusions were unanimously adopted. In 1900, then, there will be a congress to which will be invited representatives of the medical press of the entire world. An application for incorporation among the official congresses of the exhibition was submitted to the chief committee of the exhibition—a task undertaken by Dr. Beaudouin—and the sub-committee appointed to examine applications passed this one on Feb. 24th. The organising committee will be formed by members of the French Medical Press Association and its details will be settled at the next meeting. Among the questions to be discussed at the congress is that of the advisability of forming a permanent international Medical Press Association, an idea which was first mooted at the Congress held at Rome by Dobrzychi and which was in a measure begun to be carried out at the initiative of Posner, Laborde, Beaudouin, Brown, Rubino, and others. A meeting was, as a matter of fact, proposed to be held in Brussels, but it never took place. The active work of the association, upon which was grafted an idea of centralising the work of the congress, was put off until the Moscow Congress, where, however, there was so much confusion that nothing was done. There is every reason to believe that the meeting in Paris in 1900 will prove a great success. The Association of the Italian Medical Press, through its president, Dr. Bossi, has already declared its complete adhesion to the scheme of Dr. Blondel.

The Academy of Medicine.

Lord Lister was nominated a special foreign member of the Paris Academy of Medicine on Feb. 28th.

Feb. 28th.

SWITZERLAND.

(From our own Correspondent.)

Diphtheria Antitoxin.

Dr. Otto Wenner, house physician to the Zürich Children's Hospital, has compiled a careful account of the cases of diphtheria under antitoxin treatment from Oct. 25th, 1894, to May 25th, 1898. The results will shortly be published in an inaugural dissertation. Of the 385 cases where bacteriological evidence could be adduced 86 were subjected to intubation and 32 to tracheotomy. 500 or 1000 units of either Behring's or Bernese antitoxin serum were injected once or repeatedly, according to the severity of the case. In 120 cases albuminuria was noticed, and this proportion of 31 per cent. contrasts very favourably with the 57 per cent. of albuminuria during the period, 1874-94, when the antitoxin treatment was not yet resorted to. The reduction of the rate of mortality during the period of antitoxin treatment is remarkable and corroborates evidence already supplied by German and English statistics.

	1874-1891	1891-1894	1894-1898
Number of cases	690	149	385
Mortality per cent.	43·8	40·3	9·8
Cases operated on	404	79	118
Mortality per cent.	63·4	65·8	19·4
Cases not operated on	286	70	267
Mortality per cent.	16·1	11·4	5·6

Diphtheria and Heart Disease.

At the last meeting of the Medical Society of Zürich Professor Ribbert reported on four cases of sudden death from heart collapse in diphtheria. Evidence of considerable degeneration of the muscular tissue was forthcoming in each case, there being hardly any inflammatory processes. The best histological stain was a combination of hæmatoxylin with picramic acid and acid fuchsin. No bacteria could be found in the tissues and the degeneration in such cases is due to the effect of the toxins produced.

Clinical Society of Zürich.

The meetings of this society, which are held every two months either in Zürich or Berne, continue to be well attended and prove very instructive to the general practitioner, as subjects of general interest are always chosen. On Feb. 6th Professor Eichhorst lectured on the Diagnosis of Diseases of the Digestive Apparatus. Professor Muller demonstrated some interesting cases of Herpes Tonsurans Capillitii, an affection as rare in Switzerland as it is common in England; there were eight cases in one family all infected from one English boy. He also demonstrated a very obstinate case of Sycosis Parasitaria in which dressings of corrosive sublimate proved very efficacious.

Death of Professor Socin.

The Bâle Medical Faculty deplores the loss of Professor Socin who died on Jan. 21st at the age of 62 years after having been professor of clinical surgery since 1864. He studied at the universities of Bâle and Wurzburg where he graduated in 1857. He took an active part as surgeon in the Franco-Prussian War and his experiences, published in 1872, were of great interest. His chief work was a book on prostatic disease which came out in 1875 as part of Pitha and Billroth's

"Encyclopæpia of Surgical Pathology." He was a very genial man, full of wit and humour, devoted not less to medical science than to art and music, and his death leaves a void in local society.

The Orthopædic Institute of Zürich.

Dr. W. Schulthess has been demonstrating the following cases to the Medical Society of Zürich. 1. A child, aged six years, with Partial Paralysis of the Left Leg from the Knee downwards, combined with Partial Muscular Hypertrophy. It is of interest that the mother of the child had a severe fall during pregnancy. A photograph of the patient at the age of one year distinctly showed a difference, now more pronounced, in the two feet, so that the paralytic affection must have occurred either during uterine life or in the earliest period of infancy. There was partial paralysis of the anterior and posterior tibial muscles, hypertrophy of all the posterior muscles of the left leg from the knee downwards, otherwise muscular atrophy (? retraction), shortening of the left leg, and secondary pes equino-varus. Slight differences in the muscles of the left arm pointed to a cerebral origin of the paralysis. 2. A boy, aged 16 years, who from early youth had showed signs of severe scoliosis, which, however, did not hinder him from going to school and running about like other children. At the age of 15 years increasing weakness in both legs supervened without any previous illness or any symptoms of spondylitis; this was followed by spastic paralysis, which persists to this day. Dr. Schulthess considered it to be a case of a rare condition—namely, compression myelitis due to the scoliosis.

Zürich, Feb. 23rd.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The League against Tuberculosis.

ITALY long stood alone among continental countries in maintaining that pulmonary phthisis was communicable, and English-speaking physicians in Rome and Florence used to complain of the difficulty, sometimes insuperable, of getting phthisical patients admitted into hotels or pensions except at a price which would leave the proprietor free to shut his house against all other arrivals. Right in her surmise, for it was nothing more, Italy has now to follow the lead of those countries which have come round to her way of thinking, and at this moment is actively copying their provisions for limiting the spread of the disease and for promoting its cure in cases where it has been established. At Padua on Feb. 22nd a very important meeting was held at which public hygienists, the occupants of academic chairs in medicine (theoretical and clinical), and general practitioners combined to found "una lega nazionale contro tubercolosi." The rector of the University, Dr. Achille de Giovanni, who is also professor of clinical medicine, presided, and in the course of a powerful and impressive speech he described the urgent necessity for such a new departure and he also set forth the lines on which it will proceed. The league will be composed of regional committees and these will elect the national committee which will have its headquarters in Rome. Next week a not less important meeting will be held in Turin and Dr. Pio Foà, the distinguished professor of general pathology and supplemental lecturer on bacteriology in the university, will be the spokesman of the occasion. His special theme will be "Sui Sanatori popolari per la cura della Tubercolosi," and his discourse will be at once a scientific exposition and a medical propaganda. An anticipation of its tenour with which I have been favoured indicates his line to be the following. Popular sanatoria are in these days the solution of a tripartite problem—(1) medical, (2) hygienic, and (3) social. Medicine claims first consideration, because in the sanatoria for tuberculosis her "cures" attain the high proportion of 30 per cent., while her "improvements" are at least 45 per cent. Hygiene comes next, since in the sanatoria, and in these alone, the patient succeeds in mastering the methods by which he preserves those around him from the contagion of the disease. Sociology takes the third place—phthisis (or pulmonary tuberculosis) being but the most pronounced form assumed by "miseria fisiologica" (physiological impoverishment) and in the last resort by the economic "miseria" of an individual or a race. The foundation of popular sanatoria for the treatment of phthisis is therefore the practical outcome of that principle of mutual aid according to which the more favoured assist the less favoured classes—assist them, moreover, not by the fitful relief of a "charity," often capricious and always incomplete, but in conformity with the methods of an intervention at once continuous, direct, and well-systematised. All civilised countries have, to a greater or smaller extent, equipped themselves with such sanatoria. Germany, France, Switzerland, Austria, and others are already provided with them. Italy alone, as I have said, has still to follow, and not a day too soon. According to the latest statistics tuberculosis kills 70,000 of her inhabitants every year and reduces to the invalid state well-nigh 1,000,000 within the same period. Hitherto she has been content to look on and to report the success of neighbouring nationalities, as of Switzerland at Bâle and of France at Lyons; but now the initiative taken by Padua and Turin will be imitated in some of her other great centres and the projects already formulated by such municipalities as those of Brescia and Milan will have their counterparts in cities further south. Rich in climatic resorts of every kind, Italy has a magnificent opportunity of utilising these in the foundation of "sanatori popolari" and of showing to Europe what she is capable of in her hygienic as well as in her political "risorgimento." On a minor scale, indeed, she has demonstrated what she can do for the prevention and treatment of such local epidemics as pellagra—the "pellagrosai" in Lombardy having already more than justified their institution. Here again her activity is laudably on the increase, and at Padua, on April 8th, she will hold a congress "contro la pellagra" which is to last three days and at which not only the Venetian but the Lombard communes will be largely represented.

Professor G. B. Grassi on Recent Studies in Malaria.

In a lecture delivered before a mixed but chiefly professional audience on Feb. 26th at Milan Professor Grassi gave his most recent views on the accessions made to our knowledge of "malaria." The cause, essential and primary, of the fever is, he said, "a sporozoon, an organism infinitely small, developing itself through a special evolutionary cycle in a particular species of mosquitoes affecting malarious localities, which sporozoon is inoculated in man by the puncture of the said species of mosquitoes." The lecture re-traversed the ground already traced in this correspondence and need be referred to no further than as confirming the account of the Italian contributions to the discovery of the special mosquito (the *anopheles claviger*) already given to your readers. Of more interest was Professor Grassi's conclusion as to the "mode of combating malaria." This consists in "making war on the mosquitoes, destroying them, and so preventing their reproduction." The marsh waters, he said, in malarious districts from being stagnant should be made to flow. Drainage on a large scale is not needed for this object. It would suffice, in the months during which the mosquitoes are prolific, to carry out "proscingamenti temporanei" (temporary dryings up or soil desiccation). This, he assured his audience, would "save entire regions from a terrible scourge."

Feb. 25th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The Imperial Medical Society.

THE Imperial Medical Society held an extraordinary meeting on Feb. 15th to receive the report for the past year and to elect the President and officers for the current year. Dr. Stekoulis presided and opened the meeting with a brief address, in which he stated its objects. He announced that the endeavours of the society to render obligatory the notification of infectious diseases were likely to prove successful. The secretary then read the report of the past twelvemonth, gave a summary of the more important discussions, and drew attention to the number of original papers, many of which treated of surgery, ophthalmology, epidemiology, and rare cases. He spoke at great length of phakotherapy and the confirmation which modern experience was giving to M. Apéry's theories. After referring in terms of regret to the death of two valued members, Dr. Plessa and Dr. Nuridjian, he enumerated the honours and distinctions which the Sultan had bestowed upon members of the society and concluded with declarations of loyalty which were received with cheers for His Imperial Majesty. The elections then took place, Dr. Stekoulis being re-elected President. In the evening 23 members dined together to celebrate the forty-fourth anniversary of the society.

Mortality in Constantinople.

The mortality returns for January show a total of 1445 deaths, of which 887 were of Mussulmans (444 males and 443 females), 474 of Christians (272 males and 202 females), and 84 of Israelites (40 males and 44 females). Unusually fine as the winter has been this year there is, nevertheless, much illness about, more especially pneumonia and other affections of the respiratory organs brought on by imprudent exposure and carelessness. During last week 53 deaths—nearly 18 per cent. of the total—were due to diseases of this character.

Small-pox.

In view of the spread of small-pox in different parts of the metropolis, 14 deaths from this cause having occurred last week, an Imperial Iradé has been issued which orders especial precautions and efficient measures to be taken against the spread of the disease. Public vaccinators have been appointed whose duty will be to visit every quarter of the city and compulsorily vaccinate the pupils of different schools as well as grown-up persons. Some of the thickly populated quarters are in an excessively unhygienic condition and the authorities are trying to cleanse the streets. I am sorry to record that the British Postmaster, Mr. Frederick Stewart Cobb, died on Feb. 16th at the French Hospital, at the age of 56 years. Mr. Cobb was taken unwell on Feb. 7th and small-pox declared itself on Feb. 10th, when he was at once conveyed to the French Hospital. Being unfortunately in a very enfeebled state of health he was unable to offer much resistance to the disease. His death is a calamity for the British colony here.

Feb. 21st.

Medical News.

ROYAL COLLEGE OF SURGEONS IN IRELAND: FELLOWSHIP EXAMINATION.—The following candidates having passed the necessary examination have been admitted Fellows of the College:—

Mr. J Knox Denham, L.R C S Irel , Mr. E J. Moore, L.R C.S Irel , and Mr. T. G. Stevens, L R C.S Irel.

The following candidates have passed the primary part of the examination for the Fellowship of the College:—

Mr R. J Coulter, B Ch. R.U.I , Mr. J. P. Frengley, B Ch R U I , Mr. R D. Joyce, M R.C S Eng , Mr. C. R. Boyce, Mr. E Glenny, Mr. P. J. Hanafin, Mrs. H. L. Hennessy, Mr. J. M. S. Levis, and Mr. J. F. Peart.

APOTHECARIES' HALL OF IRELAND.—The following candidates have passed the recent examinations for the Licence in Medicine, Surgery, and Midwifery:—

Physiology—S. Adye Curran and L. J Farrell
Anatomy—S Adye Curran and A. J. Barnes.
Materia Medica—A. J. Barnes.
Pathology—W. P. Harding
Surgery—W. W Feris
Midwifery—W W. Feris
Ophthalmic Surgery—W. W Feris.
Completed third professional examination—W. P. Harding.

The following have received the diploma of the Hall:—F. G Adye Curran, W. P Delahunt, J. D Power, M P. O'Brien, and J. J. Ahern

VACCINATION AT GLOUCESTER.—At the meeting of the Gloucester Board of Guardians held on Feb. 21st it was decided by 28 to 15 votes to rescind a former resolution with regard to vaccination and the appointment of public vaccinators and to proceed to the appointment of a vaccination officer and public vaccinator for No. 1 district and to otherwise carry out the requirements of the General Order of the Local Government Board in regard to vaccination.

CREDITON BOARD OF GUARDIANS AND MIDWIFERY FEES.—At the meeting of the Crediton Board of Guardians held on Feb. 18th the case of Mr. Haycroft, M.R.C.S. Eng., and the midwifery fee which was reported in THE LANCET of Feb. 18th was discussed. A member moved a resolution that the case be carried to a higher court. This was seconded, but an amendment moved by Sir John Shelley that the matter be dropped was carried by a large majority.

Up to the present £1287 have been received by the council of the Hospital Sunday Fund at Bristol.

MEMORIAL TO THE LATE DR. MARSHALL.—The Dean of Bristol has received £400 towards erecting a memorial to the late Dr. Henry Marshall of Clifton. With this sum a tablet to the memory of the deceased has been placed in the Bristol Cathedral and the remainder has been invested. The dividends of this are to be devoted to an annual prize to be given to the best dresser of four years' standing at the Bristol General Hospital, of which institution the late Dr. Marshall was formerly consulting surgeon.

CHRONIC ARSENICAL POISONING.—At the meeting of the Tavistock Board of Guardians held on Feb. 24th Mr. C. C. Brodrick, medical officer of health of the Tavistock rural district, and Mr. A. Bowhay, medical officer of health of the Calstock rural district, presented a report upon the pauperism prevailing among families of men formerly employed in arsenic works at Calstock. They attributed this to the early age at which arsenic workers were disabled through inhaling arsenical fumes and made suggestions for their better protection while at work. The guardians decided to send copies of the report to the Local Government Board and managers of arsenic works in the district.

LITERARY INTELLIGENCE.—Sir William MacCormac will publish immediately, through Messrs. Smith, Elder, and Co., the "Hunterian Oration" which he delivered on Feb. 14th at the Royal College of Surgeons of England in the presence of H.R.H. the Prince of Wales.—G. P. Putnam's Sons announce the publication of a new quarterly journal devoted to the interests of anthropology. This periodical which has been established under the auspices of Section H of the American Association for the Advancement of Science, to which section is given over the study of anthropology will be issued under the title of "The American Anthropologist (New Series)" and the secretary and managing editor is Mr. F. W. Hodge, 1333, "F"-street, N.W., Washington, D.C.

ACTION AGAINST A DENTIST.—The case of Wilkins *v.* Hayman and Kendall was tried at the Bristol Assizes before Mr. Justice Mathew on Feb. 21st. The plaintiff claimed damages against Mr. H. Hayman, L.D.S.R C.S. Eng., and Mr. H. Kendall, L.R.C.P. Lond., M.R.C.S. Eng., for negligence. Evidence showed that plaintiff consulted Mr. Hayman in reference to his teeth and he was advised to have some removed under ether. This anæsthetic was administered by Mr. Kendall and the plaintiff alleged that Mr. Hayman removed more teeth than he (Wilkins) agreed to and that Mr. Kendall gave too much ether and left him before he had recovered from it. Witnesses stated that the plaintiff had suffered from a severe attack of malaria contracted abroad and that after the operation there was a considerable amount of hæmorrhage and that a portion of a tooth was left in the mouth. The defence was that the dentist was authorised to remove what teeth were necessary, that the plaintiff was sufficiently recovered after the operation to speak to the defendants who had left their addresses with the patient's friends in case their services should be required. The plaintiff's friends, however, sent for his regular medical attendant. Eventually after two minutes' deliberation the jury returned a verdict for the defendants with cotss.

MANCHESTER HOSPITAL FOR CONSUMPTION.—The annual meeting of this institution was held on Feb. 21st when the report of the board of management was received and passed unanimously. It stated that the total cost of the in-patient department was £1894 16*s.*, as against £2027 2*s.* 3*d.* in 1897. The increased cost was due to the fact that from Jan. 1st until July 31st the women's wards were entirely closed owing to the alterations, while no reduction could be made in the permanent staff. The open-air treatment now so generally recommended was about to be tried at the hospital at Bowdon through the liberality of the chairman. This would be one of the first hospitals in this country at which this system would be tried. The report of the medical board regarding the out-patient department stated that although the number of the total attendances of patients did not reach the record of 1894, yet the number of new patients treated was considerably above the average of preceding years. The number of new patients was 10,914.

Kempe, Gilbert, M.D., B.S. Durh., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer of Health for the Salisbury Rural District.

Kilvert, J. E., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

Lambert, J. R., M.B. Vict., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health by the Farsley District Council.

Langston, J. J., L.R.C.P. Irel., has been appointed Medical Officer for the No. 6 Sanitary District of the Lambeth Union.

Laverick, J. T. B., M.B., M.S., D.P.H. Glasg., has been appointed Medical Officer for the Lythe Sanitary District of the Whitby Union.

Lucas, S. A., L.R.C.P., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

Mayer, D., M.B., C.M. Aberd., has been appointed Parochial Medical Officer by the Dyce Parish Council.

Miller, W. R., B.A., M.D., B.Ch., has been appointed Admiralty Surgeon and Agent for Penzance and District, vice Humphry Davey, deceased.

Nott, A. H., Captain, M.B., M.R.C.S., I.M.S., has been appointed Clinical Assistant to the Chelsea Hospital for Women, Fulham-road, London.

Phillips, H. J., L.R.C.P., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

Roberts, K., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Ampthill Rural District Council.

Ross, E. H., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Officer to the Infirmary, Parish of St. Mary, Lambeth.

Ross, E. H., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Physician to St. Thomas's Hospital.

Sargent, P. W. G., M.A., M.B., B.C. Camb., L.R.C.P., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

Scaping, H. M., B.A. Camb., L.R.C.P., M.R.C.S., has been re-appointed a Clinical Assistant in the Special Department for Diseases of the Skin at St. Thomas's Hospital.

Singer, H. D., M.B. Lond., L.R.C.P., M.R.C.S., has been re-appointed House Physician to St. Thomas's Hospital.

Sproulle, A. E., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer of Health by the Withernsea Urban District Council.

Stevens, A. E., M.B. Durh., L.R.C.P., M.R.C.S., has been appointed House Physician to St. Thomas's Hospital.

Stuart-Low, William, F.R.C.S. Eng., has been appointed Assistant Surgeon to the Hospital of St. Francis, New Kent-road, London.

Taylor, E. C., M.D. Lond., F.R.C.S., L.R.C.P., M.R.C.S., has been appointed Medical Officer for the Workhouse, Parish of St. John, Hampstead.

Taylor, H., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer by the Smallburgh Rural District Council.

Terry, C., M.R.C.S., has been re-appointed Medical Officer to the Nos. 1 and 3 Sanitary Districts, Newport Pagnell Union.

Thwaites, G. B., L.R.C.P., M.R.C.S., has been re-appointed House Physician to St. Thomas's Hospital.

Thorp, H. C., M.A., M.B., B.C. Camb., has been appointed Assistant House Physician to St. Thomas's Hospital.

Ubsdell, Henry, M.R.C.P. Lond., has been re-appointed District Medical Officer for Staverton and Rattery by the Totnes Board of Guardians.

Weldon, W. F. R., M.A., F.R.S., has been appointed Linacre Professor of Comparative Anatomy at Oxford, vice Professor R. Lankester.

Whittome, H., M.D., C.M. Edin., has been appointed Assistant Physician to the Hospital of St. Francis, New Kent-road, London.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

Bristol City Hospitals.—Resident Medical Officer at the Ham Green Fever Hospital, Bristol, for one year. Salary £100 per annum, with board, lodging, and washing.

Charing-Cross Hospital, London.—Assistant Anæsthetist.

Coventry and Warwickshire Hospital, Coventry.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with rooms in the hospital, board, washing, and attendance.

Cumberland and Westmoreland Asylum, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £80 a year, with board and residence.

Cumberland Infirmary, Carlisle.—Assistant House Surgeon for one year. Salary £40 per annum, with board, lodging, and washing.

Chelsea Hospital for Women, Fulham-road, S.W.—Registrar for three years, subject to annual re-appointment. Honorarium 20 guineas per annum.

County Asylum, Whittingham, Lancashire.—Junior Assistant Medical Officer, unmarried. Salary commencing at £100 per annum, increasing to £250 according to promotion, with furnished apartments, board, attendance, and washing.

Dental Hospital of London, Leicester-square.—Assistant Anæsthetist.

Dental Hospital of London Medical School, Leicester-square.—Demonstrator in Dental Histology. Honorarium of £25 a year.

Great Northern Central Hospital, Holloway-road, London.—Junior House Surgeon for six months. Salary at the rate of £30 per annum, with board, lodging, and washing in the hospital.

King's College, London.—Assistant Aural Surgeon. Also Physician or Surgeon-in-Charge of the Skin Department.

Leicester Infirmary.—Assistant House Surgeon for twelve months. Honorarium £42, and board, residence at the Infirmary, and washing provided.

Liverpool Northern Hospital.—Assistant House Surgeon. Salary £70 per annum, with residence and maintenance in the house.

London Temperance Hospital, Hampstead-road, N.W.—Assistant Medical Officer for six months. Residence in the hospital, board, and washing provided, and an honorarium of 5 guineas given conditionally.

London Hospital, Whitechapel, E.—Surgical Registrar. Salary £100 per annum.

Metropolitan Hospital, Kingsland-road, N.E.—House Physician, House Surgeon, Assistant House Physician, and Assistant House Surgeon, for six months. Salaries for House Physician and House Surgeon at the rate of £40 a year, and for the Assistant House Physician and Assistant House Surgeon at the rate of £20 a year.

Miller Hospital and Royal Kent Dispensary, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary £40 per annum, with board, attendance, and washing.

Roxburgh District Asylum, Melrose.—Assistant Medical Officer. Salary £100 per annum, with furnished quarters, board, washing, and attendance.

Royal Berks Hospital, Reading.—Assistant House Surgeon for six months. Salary £30, with board, lodging, and washing.

Royal College of Physicians of London and Royal College of Surgeons of England Conjoint Laboratories.—Director of the Conjoint Laboratories.

Royal National Hospital for Consumption, Ventnor.—Clinical Assistant (qualified or unqualified) for three or six months. Residence, board, and washing provided. Applications to Mr. G. H. Parry, M.B., Resident Medical Officer.

Staffordshire General Infirmary, Stafford.—Assistant House Surgeon. Salary £30 per annum, with board, lodging, and washing.

St. George, Hanover-square, Provident Dispensary, Little Grosvenor-street, London, W.—Resident Medical Officer. Salary £100, with allowance about £80, and residence at the dispensary.

South Devon and East Cornwall Hospital, Plymouth.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

Stockport Infirmary.—Assistant House and Visiting Surgeon. Salary £70 per annum, with board, washing, and residence.

University of Glasgow.—Professor for Chair of Pathology. Normal salary £1100.

University of London, Burlington-gardens, W.—Examiners.

Victoria Hospital for Consumption, Edinburgh.—Resident Physician for six months. Residence and board provided, in addition to a nominal honorarium at the rate of £20 per annum. Also Non-resident Medical Officer for Out-patients for six months. Salary at the rate of £60 per annum.

West London Hospital, Hammersmith-road, W.—House Physician and House Surgeon for six months.

Births, Marriages, and Deaths.

BIRTHS.

Atkinson.—On Feb. 25th, at Elmhurst, Hampton-hill, Middlesex, the wife of G. L. Atkinson, M.R.C.S., L.R.C.P., of a son.

Cole.—On Feb. 23rd, at Sneinton-road, Nottingham, the wife of George Cole, M.R.C.S., L.R.C.P., of a daughter.

Griffiths.—On Feb. 23rd, at Andover-terrace, Cheltenham, the wife of J. Hugh St. D. Griffiths, L.R.C.P., L.R.C.S. Edin., late Surgeon R.N. of a son.

Haslewood.—On Feb. 25th, at 1, Aspinall-street, Prescot, Lancashire, the wife of C. Haslewood, M.B., C.M. Aberd., of a son.

Matthews.—On Feb. 26th, at Hickman-road, Penarth, Glamorganshire, the wife of Charles E. Matthews, M.D., of a son.

Wyborn.—On Feb. 24th, at Camden-road, N., the wife of W. E. Wyborn, M.R.C.S., L.R.C.P. Lond., of a daughter.

MARRIAGES.

Bell—Penruddocke.—On Feb. 28th, at St. John's Cathedral, Hong-Kong, by the Rev. F. R. Cobbold, M.A., Dr. John Bell, *Government Medical Department*, to Annie *Elizabeth*, eldest daughter of J. H. Penruddocke, Esq., late H.E.I.C.S., of Winkton, Hants (by telegram).

Morton—Macpherson.—On Feb. 28th, at Christ Church, Bayswater, by the Rev. C. Ridgeway, William Britain Morton, M.D. Lond., of Brislington, eldest son of William Morton, Esq., of Gayles, Yorks, to Louisa Elizabeth, daughter of the late Hon. John A. Macpherson, of Melbourne.

DEATHS.

Arkle.—On Feb. 22nd, at 66, Wimpole-street, W., from pneumonia, Charles Joseph Arkle, M.D., F.R.C.P., fifth son of the late Benjamin Arkle of Liverpool, aged 37.

Bass.—On Feb. 24th, at Upper Wimpole-street, W., Frederick Bass, M.D., F.R.C.S., aged 47.

Forbes.—On Feb. 23rd, Arthur Daniell Forbes, M.B., fourth son of the late Dr. Chas. Forbes, R.N., at Horsmonden, Kent, aged 33 years.

McBride.—At Arundell-villas, Weston-super-Mare, suddenly, Alexander McBride, M.D., Fleet Surgeon, R.N., aged 67.

Struthers.—On Feb. 24th, at George-square, Edinburgh, Sir John Struthers, M.D., LL.D., Emeritus Professor of Anatomy, University of Aberdeen, aged 76.

Willshire.—On Feb. 24th, at Great Marlborough-street, W., Wm. Hughes Willshire, M.D., in his 83rd year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS

METROPOLITAN HOSPITALS

MONDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (9.30 A.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.), London Throat (2 P.M.).

TUESDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (8th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (9th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.).

FRIDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (11th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES

MONDAY (6th).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. S. West: Some of the Clinical Aspects of Granular Kidney (Lettsomian Lecture). Lecture III.—Syllabus: The symptoms are late. Diagnosis often difficult. Cardiac symptoms. Hæmorrhage. Chronic Renal Toxæmia. General Cachexia. Gastro-Intestinal Symptoms. Nervous Symptoms. Respiratory Symptoms. Renal Asthma. Skin Eruptions. Acute Renal Toxæmia=Acute Uræmia. Treatment. Conclusion.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (40, Leicester-square).—7 P.M. Council Meeting. 8 P.M. Papers:—Mr. C. S. Tomes: A Remarkable Diseased Tooth.—Dr. F. T. Paul: A Contribution to the Histological Study of Dentine. Casual Communication: Mr. L. Bartlett: The Relief of Trouble from an Impacted Lower Wisdom Tooth.

TUESDAY (7th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Adjourned Discussion on Pseudo-tuberculosis. The following speakers are expected to take part:—Dr. Payne (President), Prof. J. MacFadyean, Mr. Foulerton, Dr. Wethered, Mr. W. G. Pakes, and Dr. W. S. Lazarus Barlow. Lantern slides, microscopic slides and specimens illustrating Pseudo-tuberculosis will be shown. Other Card Specimens will also be shown.

CHELSEA CLINICAL SOCIETY (Jenner Institute of Preventive Medicine, Chelsea-gardens, Grosvenor-road, S.W.).—8.30 P.M. Extra Meeting. Dr. A. Macfadyen: Enteric Fever and Diphtheria in their Bacteriological Aspects.

WEDNESDAY (8th).—DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Demonstration of Clinical Cases.

MEDICAL SOCIETY OF LONDON.—7 for 7.30 P.M. 126th Anniversary Dinner at the Whitehall Rooms, Hôtel Métropole.

HUNTERIAN SOCIETY.—8.30 P.M. Pathological Evening. Specimens will be shown by Sir H. Beevor, Dr. Goodall, Mr. Oliver, Mr. Targett, and other Fellows.

THURSDAY (9th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Specimens will be shown by Mr. C. Ryall and Dr. W. Ramsay. Papers: Dr. G. Bantock: The Modern Doctrine of Bacteriology with special reference to Gynæcology.—Dr. J. Oliver: Adenoma Universale of the Endometrium.

SOCIETY OF ARTS (Imperial Institute, South Kensington).—4.30 P.M. Mr. H. A. Acworth: Leprosy in India.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8 P.M. Card Specimens. 8.30 P.M. Papers:—Mr. C. D. Marshall: Epithelial Implantation Cysts of the Iris.—Mr. W. Dodd: Green Vision in a Case of Tabes Dorsalis.—Mr. A. Lawson and Mr. Sutherland: Further Note on a Case of Albuminuric Retinitis in a Child.—Mr. R. Donaldson: Strabismus Fixus.

FRIDAY (10th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers: Mr. B. Robinson: Hydatid Cysts of the Upper Lobe of the Right Lung and Liver successfully removed.—Mr. A. E. Barker and Dr. N. Nabarro: A Case of Pancreatic Cyst treated by Incision and Drainage.—Mr. Battle: Removal of a large Fungating Tumour of the Skull with subsequent Grafting of the Dura Mater.—Mr. A. Fenn: A Case of Erasion of the Ankle-joint, illustrating a new Operative Procedure.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (6th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. F. G. Parsons: Joints of Mammals contrasted with those of Man.

ROYAL INSTITUTION OF GREAT BRITAIN.—5 P.M. General Monthly Meeting.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. L. A. Bidwell: The Examination of the Abdominal Viscera.

TUESDAY (7th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. G. R. Murray: The Pathology of the Thyroid Gland (Goulstonian Lecture).

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—4 P.M. Dr. T. D. Savill: Electricity in the Treatment and Diagnosis of Diseases of the Nervous System.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Mr. Ballance: Surgery of the Nervous System.

ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Prof. E. Ray Lankester: The Morphology of the Mollusca.

WEDNESDAY (8th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. F. G. Parsons: Joints of Mammals contrasted with those of Man.

EVELINA HOSPITAL (Southwark Bridge-road, S.E.).—4.30 P.M. Dr. P. Willcocks: Clinical Demonstration on Medical Cases from the Wards. (Post-Graduate Course.)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Acland: Bronchiectasis.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—8 P.M. Discussion on the Establishment of Public Abattoirs in the Metropolis in relation to the Prevention of Tuberculosis. Opened by Dr. W. A. Bond.

ROYAL LONDON OPHTHALMIC HOSPITAL (Moorfields).—1 P.M. Mr. Nettleship: Retro-bulbar Neuritis.

THURSDAY (9th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. G. R. Murray: The Pathology of the Thyroid Gland (Goulstonian Lecture).

CHARING-CROSS HOSPITAL.—4 P.M. Mr. Gibbs: Demonstration of Surgical Cases. (Post-Graduate Class.)

LONDON TEMPERANCE HOSPITAL.—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration to Senior Students.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. L. A. Bidwell: The Examination of the Abdominal Viscera.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Barlow: Demonstration of Selected Cases.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—4.30 P.M. Dr. A. Eddowes: Cases of Keloid and other Affections of Scars.

FRIDAY (10th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. F. G. Parsons: Joints of Mammals contrasted with those of Man.

ROYAL INSTITUTION OF GREAT BRITAIN.—9 P.M. Prof. H. L. Callendar: Measuring Extreme Temperatures.

SATURDAY (11th).—ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Right Hon. Lord Rayleigh: The Mechanical Properties of Bodies.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICES

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

THE HOUSE SURGEON'S FEES UNDER THE WORKMEN'S COMPENSATION ACT.

THIS is a subject to which we have already referred several times and to which we shall certainly have to recur. It is one where the rights and wrongs of a difficult question can only be arrived at by the laying together of heads. The decision of any one hospital to allow certain fees to be paid to their residents cannot be made a rule for all hospitals, nor can the willingness of one insurance office to pay certain fees be quoted as a precedent to another office. But as the customs which generally prevail become generally known we feel certain that a good understanding will be established between the house surgeon (we say house surgeon as he is the officer usually concerned, but our remarks apply equally to the house physician or the resident medical officer) and such medical men as have a right to seek particulars concerning a case where compensation is in question.

In the first place, then, if a house surgeon is asked for an opinion on a case he is entitled to a fee. Whether that fee should go into his pocket or into the funds of the institution which employs him is another question and one which we will not omit to notice. But the first thing to insist upon is that the house surgeon's duties are to look after the patients under his care, to treat emergencies as they arise, and to fulfil his superior officers' directions. He is not a person to whom all and sundry may run for certificates to absent themselves from work or from school, for recommendations to employers, or for letters to charities or convalescent homes. As a rule his time is completely occupied by his discharging his just responsibilities and he is not to be treated as a jack-in-office, or as uncivil, or as ignorant because he cannot accede at once to all the requests that may be made to him. Now, whether the victim of an accident receives money from his employer or not in compensation *has nothing to do with the house surgeon* unless the governing body of the hospital have given him to understand that the matter is one in which he is to take an interest. If the governing body instruct him that he is to be ready to give all information to such medical men as have a right to ask for it upon cases of accident where compensation is in question he will, of course, do the bidding of his employers; but as the governing body in such a case would almost certainly fix a scale of fees for him he has no discretion in pecuniary matters. He gives the necessary information in return for the fixed fee and if the fixed fee is not forthcoming he refuses the information and refers his interlocutor to the governing body. But where the governing body of the hospital have not taken official cognizance of the matter at all, so that the house surgeon is free to act on his own initiative, he should try to exercise towards his medical colleagues all proper courtesy. He should not ask an exorbitant fee, but one as commensurate as he can make it with the particular demand on his time and the amount of compensation at stake. He should remember that in the higher walks of life men are constantly asked to do a little over and above that which it is their strict duty to do, and expected cheerfully to comply. It is well for the parlour-maid to object to do this or that because it is the house-maid's work, but medical men never have approached, and we hope never will approach, their obligations in this spirit. As general hints we would suggest, then—firstly, that the house surgeon should give what help he can; secondly, that he should always be paid a fee; and, thirdly, that the fee should range from 10s. 6*d*., according to the demands made upon his time. A scale has, we believe, been adopted by Guy's Hospital in which 10*s*. 6*d*. is asked for a short consultation, £1 1*s*. for a longer one, and £2 2*s*. for a consultation and written report. This seems to us to be fair.

And to whom should this fee belong? We think to the house surgeon although we know that the governing bodies could make out a sound claim. The house surgeon is their officer and the fee is earned in time owned by them. But he is also a very hard-worked officer; the amount that he will gain by such fees is trifling and the work done for them is outside his strict sphere. We believe no hospital asks its resident officers to refund fees earned as medical witnesses though here the hospital suffers a distinct loss of its officers' time. We think the house surgeon should be allowed to retain the fees earned under the working of the Workmen's Compensation Act.

"EUCALYPTUS GLOBULUS."

To the Editors of THE LANCET.

SIRS,—In a letter from a Tasmanian correspondent on the above subject in THE LANCET of Nov. 12th, 1898, you summarise some of his remarks in a footnote as follows: "Dr. Benjafield gives a warning against those purveyors of drugs that sell oil distilled from other varieties of eucalyptus than the globulus. Such oils, he says, are comparatively useless." Such a statement is utterly without foundation in fact, as anyone who knows anything of the subject will admit, and it is somewhat surprising to read of a colonial medical practitioner giving expression to such a misleading statement. It is almost needless to point out that while the oil from the eucalyptus globulus is generally a very good article there are other oils on the market which perhaps more closely answer the tests of the new Pharmacopœia as well as contain a larger percentage of eucalyptol, the recognised active principle of these oils. Further, it has been quite recently demonstrated by a series of exhaustive analyses published in one of the leading drug trade journals that a large percentage of eucalyptus globulus oils on the English *market will not answer* all the tests of the new British Pharmacopœia, and perhaps when we consider the widely different sources from which this oil is obtained—Algiers, California, and Tasmania—and the consequent variations of season, soil, and climate, it is little wonder there should be variation in the samples examined, so that the fact of an oil being the product of eucalyptus globulus or any other variety has of itself been very *wisely discarded in the new Pharmacopœia* as any guarantee to its medicinal activity. One thing is certain, that while the Pharmacopœia Committee have ignored the botanical or geographical sources as a matter of little importance the stringent tests laid down by them will as certainly exclude inferior globulus oils as well as those of other species and yet will include others which do not *claim to be globulus* oils, but which have an already world-wide reputation for purity, excellence, and uniformity of character, not only with the British medical profession but with the leading medical practitioners throughout both hemispheres.

I am, Sirs, yours faithfully,
W. J. BROWNSCOMBE, Pharmaceutical Chemist.
Elsternwick, Victoria, Jan. 3rd, 1899.

ROENTGEN RAY OUTFITS.

Mr. G. STEGMANN, electrical engineer, of 45, St. John's-hill, Clapham-junction, S.W., has submitted to us for inspection his new list of Roentgen ray apparatus. It records several important improvements in accessories—as, for example, in the Crookes's tube and in the mercury interrupter. It is also stated that he has always a complete 12-inch installation at work in his laboratory.

"AN IMPROPER ADVERTISEMENT."

To the Editors of THE LANCET.

SIRS,—I notice in THE LANCET of Feb. 25th a letter under the above heading calling attention to an advertisement in *Lloyd's Weekly Newspaper* of a "Toothache cure" ("Ibis"), with the name of a Licentiate of Dental Surgery displayed in full. You remark that "the advertisement *is one to which the attention of the Royal College of Surgeons of England or even that of the General Medical Council may well be called.*" I beg to state that, as published in the *British Dental Journal* of Oct. 31st last, the attention of the Council was called to the same advertisement appearing in another paper (*Answers*) and the only reply given by the Registrar was that "according to the regulations of this Council, any complaint as to improper advertising is duly considered." A correspondent of ours, Mr. L. Strangways-Hounsell, L.D.S. Eng., communicated later with the Royal College of Surgeons of England and received a reply from which the following is an extract (*British Dental Journal*, January, 1899):—

> "The Council do not possess any disciplinary powers in regard to their Dental Licentiates so as to enable them to stop advertisements such as the one you so rightly condemn. *The Council* cannot and do not require any undertaking on the part of those who seek the Dental licence in reference to advertising. I can only repeat that I regret, as matters stand, *there is not any redress to be obtained in this matter.*"

It would seem, therefore, that it *is of little* use to call the attention either of the Royal College of Surgeons or of the General Medical Council to an advertisement which is in flagrant violation of professional etiquette.—I am, Sirs, yours faithfully,
THE EDITOR OF THE "BRITISH DENTAL JOURNAL."
Weymouth-street, W., Feb. 28th, 1899.

*** We intend to join forces with the editor of our contemporary and see if this and similar advertisers cannot be prevented from disgracing the medical and dental professions.—ED. L.

STERILISATION AND THE TYPHOID BACILLUS.

To the Editors of THE LANCET.

SIRS,—Are we correct or are we not in our general belief that sterilisation of milk (usually used within a few days of the process being carried out) renders it absolutely free from any risk as to the vitality of any *enteric germs it may have contained?* I would ask for some authoritative pronouncement from our bacteriologists because I find that a paragraph going the rounds as to some American experiments of Messrs. Bolley and Fields (U.S. Government analysts) is having a very disquieting effect on the average hard-working, too-busy-to-read-much practitioner. You will know. It is stated that "typhoid bacteria can exist for upwards of four months in sterilised milk, and in butter (uncleansed of whey) for three months." Surely not?

I am, Sirs, yours *faithfully*,
FREDK. A. LEES, L.R.C.P. Lond., M.R.C.S. Eng.
Leeds, Feb. 27th, 1899.

*** In properly sterilised milk no enteric germs can be present unless it has been subjected to contamination after the process.—ED. L.

"A GENTLEMAN" AND HIS METHODS.

To the Editors of THE LANCET.

SIRS,—Your advice is so good on all matters connected with the medical profession that I may be pardoned for troubling you for it under the following circumstances. "A gentleman," L.S.A. Lond., recently sold a nucleus by means of cooking the books, making false entries &c., by which he represented that he was making £3 per week when in reality he was only taking about 15*s*. He at the same *time sold* the incomer drugs for which he had not paid the wholesale chemists; and here it should be *mentioned*, though it does not strictly concern the medical side of the case, that he left various tradespeople in the lurch and that his taxes were obtained through the instrumentality of the bailiff and a policeman. His wife ordered dresses but neglected to pay for them.

Now, my object is not to drag the name of a defaulting brother, and so the medical profession generally, through the mud before the general public, but simply to prevent the man from continuing to defraud men who can ill afford to throw away money; for I have good reason to believe that this "gentleman" is in the habit of settling in a neighbourhood for a month or two cooking books and selling a bogus nucleus. For this purpose he makes use of your columns and possibly that of your chief contemporary the *British Medical Journal*. The facts which I state are known to my colleagues, and I enclose my name and his. Is there any way by which he can be prevented from carrying on this system of fraud? Can you and do you refuse to insert an advertisement if it should come from what you know to be a questionable source? For this is the only way which occurs to me to stop the fraud.

I fear that I have inflicted a somewhat lengthy letter upon you, but the matter is not entirely devoid of interest to the profession generally, for judging from his last venture he will so far as is possible bring the profession into bad odour wherever he may go.

I am, Sirs, yours faithfully,

Feb. 28th, 1899. D. P.

*** It is impossible for us to know the antecedents of our advertisers and the fraudulent advertisement is always made to read nicely. Where we have any suspicions we always refuse the advertisement until our suspicions are cleared up. We can assure our correspondent that the person in question will have no advertisement inserted in our columns unless he can explain the circumstances of his previous sale-transactions to our satisfaction, giving us also full opportunity to verify his statements.—ED. L.

"SUGAR FREE WINES."

To the Editors of THE LANCET.

SIRS,—We read with very great interest your paragraph and list of "sugar-free" wines contained in THE LANCET of Feb. 25th. You are kind enough to mention our brand of Laurent Perrier, "Sans Sucre," but will you permit us to say that our address is 33, Leadenhall-street, not 17, Billiter-street. It is true that our premises run down Billiter-street, but the entrance is at 33, Leadenhall street. We would further venture to remind you that the words "Sans-Sucre" are our Laurent Perrier trade mark. You in the list apply the words to another champagne as well as to our own and no doubt this has arisen from the fact that this house did some years ago label some small quantity of their wine with the words "Sans-Sucre," but on our drawing their attention to the fact that we had registered these words they courteously consented at once to drop all use of them.—We are, Sirs, yours faithfully,

Leadenhall-street, E.C., Feb. 27th, 1899. HENRY & COLLINGWOOD.

"WHAT IS ADVERTISEMENT?"

To the Editors of THE LANCET.

SIRS,—The newspaper article to which you draw attention has caused me much annoyance, a feeling which would have been still stronger had not its tone appealed so strongly to one's sense of the ridiculous. One morning in the preceding week a gentleman called upon me and professed great interest in the subject of cancer, upon which he desired information for literary purposes. I answered a few questions and for any further details referred him to my published works. He told me that my name would not appear in the papers he proposed to write. I feel sure that no one acquainted with me will credit me with responsibility for the grotesque manner in which my name has been introduced or for the palpably absurd statements to which you rightly object.

I am, Sirs, yours faithfully,

HERBERT SNOW.

Gloucester-place, Portman-square, W., Feb. 27th, 1899.

*** We publish this letter with much pleasure. It will be seen that the representative of the *Echo* is stated by Dr. Snow to have obtained the interview upon false pretences and then to have broken faith with he interviewed. We understand that in some circles many things which are obviously bad manners get themselves accepted as "good journalism," but the representative of the *Echo* stands accused of more than bad manners.—ED. L.

A MEDICAL LADY'S FEES IN DISPUTE.

THE Brussels courts have had to adjudicate for the first time upon the reasonableness or otherwise of the fees claimed by a medical lady. The circumstances of the case were briefly as follows. A certain baron applied to the court for a separation from his wife on the ground of her persistent refusal of marital rights. This application being granted the lady, who was a devout Catholic, applied to the ecclesiastical authorities for a declaration of nullity of marriage, stating at the same time her desire to take the veil. The case was sent to Rome by the Archbishop of Malines and leave obtained for the lady to *enter a convent* on condition of proof being furnished that the marriage had never been consummated. For this purpose recourse was had to a certain medical lady who examined her and declared on oath before the ecclesiastical court that the baroness was still *virgo intacta*. The fee claimed by the lady doctor was 1000 francs which was refused on the ground that it was far more than would have been asked by the most eminent male members of the profession in Brussels. The explanation given was that it covered a large amount of work, several visits to the baroness, two journeys to Spa, one to Malines, a written report, and giving evidence before the ecclesiastical authorities. Also that the opinion of the Medical Commission had been taken upon it and that that very *important professional* body had considered the amount suitable. The court, however, reduced it by one-half—i.e., to 500 francs.

◆

L. J.—All communications should be addressed to the honorary secretary of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis at 20, Hanover-square, London, W. The association consists of ordinary and of life members. The subscription of ordinary members is 5s. annually. A donation of five guineas qualifies for life membership. The object of the association is the prevention of tuberculosis and the methods to be adopted to this end are threefold: 1. The education of public opinion and the stimulation of individual initiative by means of (*a*) a central office for the collection and distribution of information as to modes of diffusion of tuberculosis and measures of prevention; (*b*) the circulation of pamphlets and leaflets setting forth in plain language the results of scientific investigation of the above points; (*c*) public lectures by men approved by the council, addresses at congresses and other public gatherings; (*d*) coöperation with other societies having for their object the promotion of public health; (*e*) the coöperation of the public press; (*f*) periodical congresses and the issue of an annual report; and (*g*) the promotion of the establishment of open air sanatoria for tuberculous patients. 2. The influencing of Parliament, county councils, boards of guardians, chambers of agriculture, and other public authorities on matters relating to the prevention of tuberculosis. 3. The establishment throughout the kingdom of local branches of the association.

Asterion.—From the circumstances as stated by our correspondent B certainly has a right to charge a fee, but we do not know what the rules of the institution may be with regard to A engaging in private practice. If A by any by-law of the dispensary or by the general tenor of the rules may not attend private patients he clearly should not charge fees. We would suggest that A should talk the matter over with B's usual medical adviser and take his opinion on making a charge and on what charge to make.

L. V. Sc., L.M., and S.—The Bombay Municipal Act would seem to be one thing and the Infectious Diseases Notification Act of Great Britain another. Under the latter there are certain duties to be discharged and certain fees attached; under the former there is a duty but apparently no fees. The position does not on the face of it seem quite fair, but the only remedy is repeal or alteration.

J. D.—1. There are several excellent apparatus on the market for the purpose. One convenient form is described in THE LANCET of Feb. 12th, 1898.—2. Boiling destroys tubercle bacilli with certainty.—3. The Report of the Royal Commission on Tuberculosis and Milk-Supply (Government Blue Book), published by Eyre and Spottiswoode, East Harding-street, E.C.

Physical can only consult a good surgeon or physician. He cannot find out what the board's decision will be beforehand.

Hornchurch is advised to do nothing.

METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, Mar. 2nd, 1899.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 a.m.
Feb. 24	30·29	S E.	...	67	52	36	37	38	Foggy
" 25	30·32	S E.	...	70	48	36	36	37	Foggy
" 26	30·39	E.	...	72	46	31	33	35	Hazy
" 27	30·47	E	...	56	44	31	32	33	Hazy
" 28	30·67	S W.	...	69	48	28	Fzn.	29	Foggy
Mar. 1	30·64	S.W.	...	67	51	29	34	37	Hazy
" 2	30·47	S.W.	...	71	49	35	35	37	Hazy

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The Goulstonian Lectures

ON

THE PATHOLOGY OF THE THYROID GLAND.

Delivered before the Royal College of Physicians of London

By GEORGE R. MURRAY, M.A., M.D. CANTAB., F.R.C.P. LOND.,

HEATH PROFESSOR OF COMPARATIVE PATHOLOGY IN THE UNIVERSITY OF DURHAM; PHYSICIAN TO THE ROYAL INFIRMARY, NEWCASTLE.

LECTURE I.[1]

Delivered on March 7th, 1899.

MR. PRESIDENT AND GENTLEMEN,—I must, in the first place, thank you very sincerely for the honour which you have conferred upon me by asking me to deliver the Goulstonian Lectures for this year, an honour which I feel to be all the greater when I read the list of distinguished Fellows of this College who have preceded me in this lectureship in whose footsteps I can but humbly endeavour to follow.

GENERAL SCOPE OF THE LECTURES.

In selecting the subject for these lectures I have been guided by three considerations. First, the wide-spread interest which has been aroused in the pathology and treatment of diseases of thyroid gland during the last few years. Secondly, the good example which the subject affords of how experimental research in pathology yields results which are of the greatest importance and assistance to the physician in his daily work of treating disease. Thirdly, the opportunity which I have had of devoting some attention to the subject may, I venture to hope, enable me to present it in a manner which will interest you. I shall not attempt to cover the whole ground but shall for the most part deal with those parts of the subject which I have been able to examine for myself, nor will time permit me to allude to all the valuable work which has been done by the many workers in this branch of pathology. I trust, therefore, that this explanation will excuse any omissions which I may make in not referring to the work of others.

It will be convenient first to consider the development and structure of the thyroid gland and the method in which its characteristic secretion is produced. This will clear the way for the consideration of the results which follow when this function is diminished or lost by removal of the gland in animals or by its destruction by disease in man. The removal of the thyroidal insufficiency thus induced by maintaining a supply of secretion from other sources will be considered as a means of treatment. I propose also to deal with the question of compensatory hypertrophy as illustrated by the thyroid gland, while in conclusion the pathology of exophthalmic goitre will be considered as far as our present knowlege of the subject permits.

DEVELOPMENT AND STRUCTURE OF THE THYROID GLAND.

The embryology and comparative anatomy of the thyroid gland furnish us with important information as to the origin of its present situation, structure, and function in man. The gland is developed in the embryo in three different parts. A median diverticulum of the hypoblast which lines the pharynx of the embryo is formed between the ventral ends of the second visceral arches, while a lateral diverticulum is developed on each side from the posterior wall of the fourth visceral cleft. In man the median portion persists for a time as a hollow vesicle from which a small canal, the thyreoglossal duct, leads to an opening on the dorsal surface of the tongue. At a later stage this vesicle becomes solid and the duct disappears, while its external opening on the surface of the tongue persists as the foramen cæcum in the adult. The two lateral diverticula fuse with the central portion, forming a mass shaped like a horseshoe encircling the embryonic larynx. All three portions become separated from the hypoblast from which they originated and develop into a mass of branching cell-cylinders. These cell-cylinders are later divided up by the ingrowth of connective tissue containing blood-vessels into separate vesicles. These gradually increase in size and become hollowed out by the accumulation of the colloid substance which is secreted by the epithelial cells into the lumen of the alveolus. His[2] has found that in some cases the thyreoglossal duct already mentioned does not become obliterated, but that it persists in the adult as the lingual duct which has been traced from the foramen cæcum as far down as the hyoid bone. In some cases the middle lobe of the gland is continued upwards as a narrow tube, the thyroid duct, as far as the hyoid bone. The late Professor Kanthack,[3] who examined 100 adults for these ducts, however, found neither a lingual nor a thyroid duct in any of the cases which he investigated and in many there was not even a foramen cæcum. The important fact remains that the thyroid gland is developed primarily as an outgrowth of the pharyngeal hypoblast, and in some lower animals this connexion with the pharynx is still maintained. Andriezen[4] directed attention to the fact that the thyroid gland is represented in ascidians by a mass of glandular tissue and in amphioxus by a hypobronchial organ which pours its secretion directly into the pharynx. In higher forms (such as fishes) the gland is embedded in the surrounding tissues but the duct which communicates with the pharynx still remains. Thus both the ontogenetic and phylogenetic histories clearly show that the gland as we now find it in man is descended from a secretory gland which originally was provided with a duct through which the secretion passed into the pharynx just as the secretion of the salivary glands still flows into the mouth. In this we find an explanation of the fact that the activity of the thyroid secretion is not destroyed by passage through the stomach but still can produce all its usual physiological effects when swallowed and absorbed from the alimentary canal as it doubtless was by our remote ancestors. This mode of evolution seems to indicate that a ductless gland with an internal secretion is a higher stage of development of a duct gland with an external secretion.

The fully developed gland consists of three parts—two lateral lobes and the isthmus which unites them. The two lobes are closely applied to the sides of the larynx and trachea and extend backwards as far as the sides of the pharynx and œsophagus. At the level of the isthmus the recurrent laryngeal nerve lies in the angle between the œsophagus and the trachea, being covered externally by the lateral lobe of the gland on each side. In front the gland is covered by the sterno-hyoid, the sterno-thyroid, and omo-hyoid muscles. Laterally the lobes extend outwards in front of the common carotid arteries. Each lateral lobe is shaped somewhat like an almond but the upper end is narrower and more pointed than the lower. The lower end lies on the fifth or sixth ring of the trachea, while the upper is generally on a level with the middle of the thyroid cartilage. The position of the isthmus varies, but it generally lies in front of the second, third, and fourth rings of the trachea. In many cases, variously estimated at from 40 to 68 per cent., the pyramid or middle lobe extends as a thin process from the isthmus or from a neighbouring part of one of the lateral lobes up to the hyoid bone to which it is attached by muscular or fibrous tissue. The gland is firmly fixed to the larynx and trachea by fibrous tissue so that it follows the movements of these structures which take place during deglutition. The gland when freshly removed is of a dark red-brown colour. It usually weighs from an ounce to an ounce and a half (from 30 to 50 grammes). It is relatively larger in the infant than in the adult; thus Huschke and Weibgen[5] found that in newly-born children the weight of the gland was equal to from $\frac{1}{400}$ to $\frac{1}{500}$ and in adults from $\frac{1}{1222}$ to $\frac{1}{1800}$ of the total weight of the body. The gland is as a rule somewhat larger in women than in men, though Ewald[6] makes a contrary statement supported by Weibgen who gives the average weight in the male as 34·2 grammes, and in the female as 29·3 grammes. Each lobe is about two inches (50 mm.) long, an inch and a quarter (30 mm.) broad, and three quarters of an inch (18 mm.) deep. The right is generally a little larger than the left. The isthmus is about half an inch (12 mm.) broad, and from a quarter to three quarters of an inch deep. The whole gland, however, is liable to considerable variations in structure, such as inequality in size between the two lobes, absence of one lobe, and absence or irregularity of the isthmus. There is a rich blood-supply from four arteries, the superior and the inferior thyroid arteries on each side, and in some cases there is a further supply by the thyroidea ima. These arteries are tortuous and very large for the size of the gland which they supply; they form many anastomoses and finally end in a network of capillaries closely surrounding each alveolus. The capillaries come into close relationship with the epithelial cells and some capillary loops even project between them. The veins which, according to Sappey, have no valves unite to form the superior, middle, and inferior thyroid veins, the two former of which open into the internal jugular vein while the latter enters the innominate. The lymphatics start from the lymph spaces in the connective tissue which surrounds and unites the vesicles of the gland. They unite to form large trunks which freely anastomose both in the substance of the gland and also upon its surface. On leaving the gland the lymphatics pass through the superior and inferior deep cervical glands to join the jugular lymphatic trunk, which on the left opens into the thoracic duct and, on the right into the right lymphatic duct, each of which discharges into the venous blood-stream at the point where the innominate vein is formed by the junction of the internal jugular and subclavian veins on each side. The nerves which supply the gland come from the middle and inferior cervical sympathetic ganglia and pass into it with the blood-vessels. The nerve branches run in close proximity to the bases of the epithelial cells but the actual nerve-endings have not yet been described.

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[1] Lecture II. was delivered on March 9th and Lecture III will be delivered on March 14th.

[2] Anatomie menschlicher Embryonen.

[3] Journal of Anatomy and Physiology, vol. xxv., p. 155.

[4] Brit. Med. Jour., Sept. 23rd, 1893, p. 678.

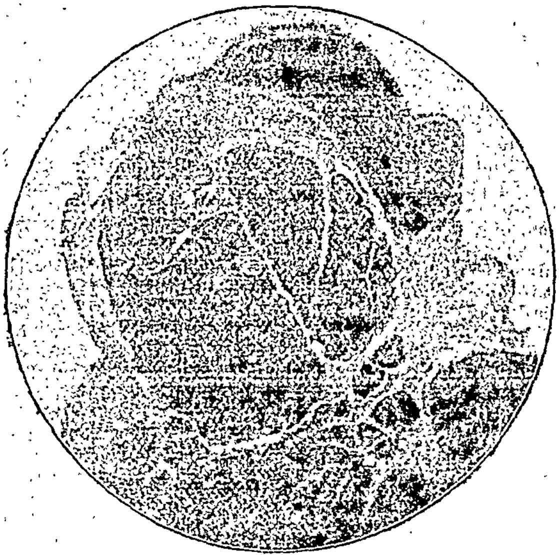
[5] Münchener Medicinische Abhandlungen, 1891.

[6] Die Erkrankungen der Schilddrüse, p. 3.

HISTOLOGY.

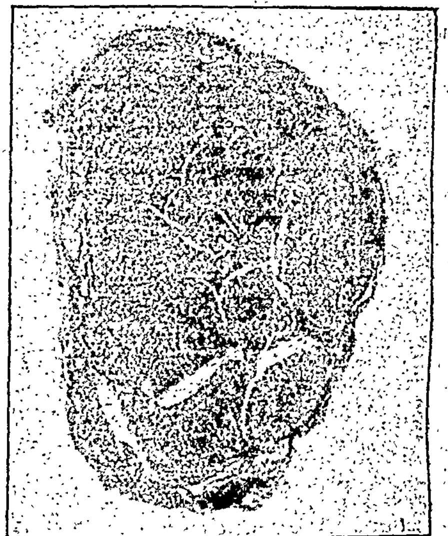
Externally the gland is invested by a firm fibrous capsule from which septa extend inwards, partially dividing it into lobules of various sizes. Still finer divisions of this connective tissue framework surround the individual follicles and support the small divisions of the blood-vessels, lymphatics, and nerves. The glandular structure consists of large numbers of closely aggregated follicles which vary in size and shape. On section they appear round, polyhedral, or flattened, and the diameter in man ranges from 0·045 mm. to 1 mm. In the great majority of the follicles there is a single layer of cubical epithelial cells surrounding a central area filled with their secretion, the colloid substance. Some of the follicles seen in a section of the gland appear as masses of cubical cells without any central space. This appearance is in some cases due to one side of the alveolus alone being exposed in the section; in others to the alveolus not being distended with secretion. No basement membrane to the epithelium has been described. Two kinds of cells are found in the epithelium—the chief cells and the colloid cells. The chief cells are usually cylindrical, sometimes cubical, in shape. They measure from 8 μ to 16 μ in height and from 6 μ to 8 μ in breadth, while the nucleus which is round measures from 5 μ to 6 μ in diameter. The colloid cells are considerably shorter than the chief cells, thus Hürthle[7] found in one specimen that while the chief cells measured from 12 μ to 14 μ in height the colloid were only from 7 μ to 9 μ high. The colloid cells are also distinguishable from the chief cells by the readiness with which they take up those staining fluids which also stain the colloid substance in the centre of the follicle. Intermediate types may also be observed. The colloid substance which occupies the central space of the alveolus is a yellow glairy fluid which stains uniformly in microscopical sections. Scattered through it may sometimes be seen white blood corpuscles, epithelial cells, and the remains of red blood corpuscles undergoing degenerative changes. The general appearance of the gland is shown in Fig. 1 and Fig. 2, which were taken from transverse sections through the lateral lobe of the thyroid gland of a bonnet monkey. These and the other micro-photographs which will be shown later have been kindly prepared from my specimens by Dr. R. A. Bolam. These illustrations also show how closely in this animal the parathyroid is attached to the thyroid gland in which it may be even partly embedded, as in Fig. 2, an association to which I shall refer more fully in dealing with the functions of the gland.

FIG. 1.



Transverse section of thyroid gland of bonnet monkey, showing general structure and close attachment of parathyroid gland.

FIG. 2.



Transverse section of one lobe of thyroid gland of monkey, showing one portion of parathyroid at right edge of section and another triangular portion embedded in and just below centre of thyroid gland.

FORMATION AND ABSORPTION OF THYROID SECRETION.

The colloid substance is the secretion of the epithelial cells which line the alveoli. Hürthle has shown by observations made on normal glands and on portions of glands in which increased secretory activity had been stimulated either by removal of the greater part of the gland or by ligature of the bile-duct so as to cause absorption of bile-products into the blood that the secretion may be formed by the epithelial cells in two ways. The colloid may be either formed in droplets in the cells and then gradually extruded into the lumen of the alveolus or whole cells may break down and be discharged into the colloid substance, a part of which they thus help to form. In the first method the same cell continues to secrete, while in the second its place is taken by one of the reserve cells. It is doubtful if both these methods obtain during normal secretion, the first being probably the usual manner in which secretion takes place. The large amount of secretion which is found in many alveoli indicates that under ordinary circumstances it is not discharged as soon as it is formed, but that the central portion of the alveolus serves as a reservoir where the secretion is stored for a time before it finally escapes from the gland.

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[7] Pflüger's Archiv, 1894, vol. lvi. 1.

As the thyroid is a ductless gland it is clear that the secretion can only escape by the lymphatics or the veins. The evidence which we possess shows that the former is the usual path, for it was shown by King and by Horsley[8] that by applying pressure to the gland the colloid could be squeezed from the acini into the interacinous lymphatic spaces where it could be seen with the microscope. Biondi and Hürthle have found that this escape of the secretion from the alveolus may occur in two ways. The walls of the alveolus, not necessarily as the result of distension, becomes thinned out at one point and finally ruptures, allowing the colloid to escape directly into the lymphatic space outside while the empty follicle collapses and forms the starting-point for a new one. Hürthle has found that the secretion can also pass out from the alveolus without rupture of the wall. He injected Berlin blue into the lymphatic spaces of the gland, using an intermittent pressure, and found that it passed on into the interior of the alveoli through minute intercellular channels in which it could be seen. He also found that when the secretory activity was stimulated the colloid itself could be seen lying in these intercellular channels continuous with the colloid in the alveolus at one end and with that filling the lymph spaces at the other, proving that it was passing from the former position to the latter. By one or other of these methods, then, the secretion flows into and mingles with the lymph which bathes the interalveolar spaces of the gland and with it flows along the path already described to be discharged into the blood stream in the innominate vein and so distributed to all parts of the body. No doubt as in other glands the activity of the secretion varies according to circumstances; of these, however, we possess but little information. Stimulation of the laryngeal nerves or of the sympathetic with the faradaic current produces no change indicative of increased secretion. Pilocarpin produces a marked increase in the secretion of the colloid as shown by Wyss, and Schäfer found that the changes produced in the cells were similar to those which occur in other secretory glands under the stimulating influence of this drug. As already mentioned the presence of an excess of bile constituents in the blood after ligature of the bile duct also stimulates thyroidal secretion. Removal of the greater part of the gland was also shown by Hürthle to serve as a stimulus to more active secretion in the remaining portion.

COMPOSITION OF THYROIDAL SECRETION.

At one time the thyroid gland was considered to be an excretory rather than a secretory gland and the excretion a mucinoid substance the retention of which led to an accumulation of mucin in the body and the production of the subcutaneous swelling in myxœdema. Further investigation has shown that the colloid substance is a true secretion which does not contain mucin. Our knowledge of the actual composition of this secretion is by no means complete but several important constituents have now been separated from it. Most of those who have examined the composition of the secretion have considered the proteids to be the important and active constituent of it. Notkin[9] regards thyreoproteid, a substance which he isolated from the gland, as an active constituent which behaves like an enzyme. Gourlay[10] found that a nucleo-proteid was the only proteid to be obtained from the thyroid in any quantity and that it contained phosphorus which by Morkutun's analysis has been shown to amount to 0·32 per cent. Baumann and Roos[11] made the important discovery that the colloid substance contains iodine in an organic combination with proteid which they named "thyroiodin." This substance contains 9·3 per cent. of iodine and 0·56 per cent. of phosphorus. Hutchison[12] has found that two proteids are contained in the gland, a nucleo-albumin which is contained in the epithelial cells and a colloid material which fills the acini. The formed secretion of the gland is split up by gastric digestion into two parts, one of which is proteid, contains only a small amount of iodine, and has but slight physiological action, the other of which is non-proteid, contains more iodine and all the phosphorus of the original colloid, and is more active in removing symptoms due to loss of thyroid secretion than the proteid portion. S. Fraenkel[13] obtained a crystalline substance with the formula $C_6H_{11}N_3O_5$ from the gland which he named "thyreoantitoxin"; there is, however, no satisfactory evidence to show that this body is endowed with active properties.

It is evident from these observations that the secretion is a complex body and we cannot as yet say whether its remarkable properties depend on one or, as is more probable, several constituents. Be this as it may we shall now consider what functions are fulfilled by the secretion as a whole, for that is the form in which it mingles with the blood and is thereby conveyed to the tissues.

THE RESULTS OF LOSS OF THE SECRETION IN ANIMALS.

A large amount of valuable information as to the properties and functions of this secretion has been obtained by observing what occurs when it is no longer present in the blood. This state of affairs is easily brought about by removal of the gland from an animal. Owing to the superficial position of the gland in the neck this operation can easily be performed so as to entail no other secondary result than the loss of thyroid secretion forthwith, provided only that the parathyroid glands are not attached to the gland and removed with it, in which event the effects observed are the results of thyroidectomy plus parathyroidectomy. In man the results of failure of the normal supply of thyroid secretion from disease of the gland are seen in primary myxœdema and from removal of the gland for goitre in secondary myxœdema or "cachexia strumipriva" as it is also called. My own observations of the results of thyroidectomy have been made on rabbits and monkeys. It has, however, been shown that although no effects have been observed in fishes, in lizards and snakes the operation is followed by loss of strength and activity, ending in death in the course of a few weeks. In rabbits the different results obtained by various observers were difficult to explain until it was shown by Gley[14] that removal of the parathyroid glands along with the thyroid gland produced different effects from the removal of the thyroid alone. The double operation was followed by acute symptoms, the most important of which were muscular tremors commencing in the masseter muscles, clonic and often tetanic contractions of the voluntary muscles, paralysis of the extensors of the fore feet followed by that of the hind limbs, difficult and often rapid respiration, salivation, dilation of the pupils, and rise in temperature. Removal of the thyroid gland alone was followed by no such immediate effects.

My own observations show that although the immediate effects of thyroidectomy are very slight, after a long interval a chronic cachexia develops closely resembling myxœdema in man. Thus in two rabbits which were kept for a long time under observation after the thyroid gland had been removed there was an early development of hebetude and loss of appetite; no further change was noticed until an interval of 11 months in one case and 12 months in the other had elapsed after the operation. After this, in addition to the hebetude already mentioned, swelling of the subcutaneous tissues, dryness of the skin, loss of hair, and subnormal temperature developed—an entirely different condition from that described by Gley after removal of the parathyroids as well. The illustrations show the appearance of one of these animals killed 11 months after the operation and the ears of the other killed 21 months after. The ears were very dry, rough, and cold to the touch though they flushed readily when handled. The edges of the ears were dry and cracked to a depth of a quarter of an inch. In many places this dried margin had broken off, leaving an irregular outline to the ear. In a third rabbit which was kept for 27 months after thyroidectomy no symptoms appeared. When the animal was killed the reason of this was found to be that some of the g tissue had unintentionally been left at the the operation and had undergone compensatory trophy. The total amount of thyroid tissue found only 0·07 gramme or about one-third of the weigh gland of a normal rabbit, but it had been to maintain an adequate supply of secretion for two years. Dogs and cats both develop a rapid cachexia after thyroidectomy. More than 40 Schiff showed that dogs did not long survive the tion and succumbed after total extirpation of the gland. In dogs the total duration of the symptoms induced by the operation may vary from a few days to five weeks, but it rarely exceeds this period. Soon after the operation the animal becomes dull and listless and loses its appetite. These symptoms are followed by fibrillary twitchings in the muscles and clonic convulsions of the trunk and limbs, during which the animal lies on its side with the head thrown back and the limbs extended. There is great dyspnœa during these attacks and the animal is in a half comatose condition which becomes complete before death. There is a general diminution of muscular power and in many cases rapid emaciation. There is a slight rise of the temperature at first which becomes sub-normal before death. The red corpuscles are diminished and the white are increased in number. Very similar symptoms occur in cats. The observations of Vessale and Generali[15] on cats and dogs, of Edmunds[16] on dogs, and of Welsh[17] on cats show that if the parathyroid glands are excised without the thyroid gland very similar acute symptoms occur to those observed when the thyroid and parathyroids are removed together. These symptoms are tremors, slow and unstable gait, emaciation, and weakness, all of which previously were regarded as being due to the loss of the thyroid alone. The most important results of all have been obtained in monkeys which have been employed by Munk, Horsley,[18] and myself. In the bonnet monkey (macacus sinicus) which I have used with one exception in all my experiments[19] a parathyroid gland lies in close connexion with or actually embedded in each lobe of the thyroid gland, as is shown in Fig. 1 and Fig. 2. As a result of this when the thyroid gland is removed the parathyroids are removed along with it. It would be difficult to remove the one without the other, for distinctly as the parathyroid can be seen in a transverse section it is much more difficult to see it during life while the gland is *in situ*. In two recent experiments I was unable to detect even with a lens the parathyroids on either side and to remove them without the thyroid gland; they were, however, easily seen in transverse sections of the lateral lobes after removal of the whole gland. It is therefore important to bear in mind that thyroidectomy in this monkey involves removal of the parathyroids as well, so that the symptoms which occur afterwards are *not* solely due to loss of thyroid secretion but in part are due to loss of the parathyroids as well.

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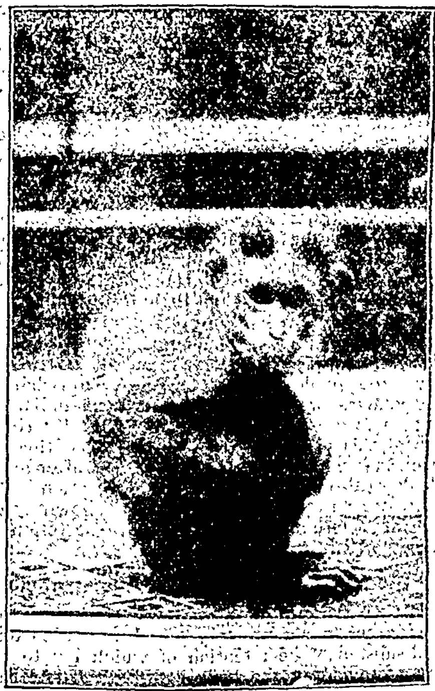
[8] Brit. Med. Jour., Feb. 6th, 1892.
[9] Semaine Médicale, April 3rd, 1895.
[10] Journal of Physiology, vol. xvi., 1894, p. 23.
[11] Zeitschrift für Physiologische Chemie, Band xxi., 1896, p. 481.
[12] Journal of Physiology, vol. xx., 1896, p. 474.

I have removed the whole or a part of the thyroid gland in nine bonnet monkeys and in one rhesus monkey; in four of the former the symptoms were allowed to develop with the object of testing the influence of various preparations of the thyroid gland upon them. Some symptoms also occurred in the others, but these four form the basis for the description of the symptoms which result from the operation. These symptoms have been very carefully described by Horsley, but they have such an important bearing upon the whole subject that I shall briefly describe what I was able to observe in my own experiments. The gland is readily removed in the following manner when the animal is fully under the influence of ether. The skin of the front of the neck is shaved and carefully washed with one in 1000 solution of perchloride of mercury. A median longitudinal incision is made through the skin overlying the thyroid and cricoid cartilages and upper part of the trachea. On separating the muscles and exposing the upper part of the trachea the isthmus comes into view. Each lobe is then gently separated from the surrounding structures and while the gland is held by one pair of forceps the blood-vessels are torn out of it at the point of entrance by another pair. The loss of blood is trifling and no ligatures are required. The usual antiseptic methods are adopted and the muscles are united by a couple of sutures. The skin is brought together with horsehair sutures set very close. The wound is dressed with carbolic gauze or some antiseptic wool and collodion and it heals rapidly by first intention. After the operation the animals have been kept in a room the temperature of which ranged between 60° and 70° F. In about five days the symptoms first begin to develop, the early symptoms being entirely nervous. One of the first to appear is a fine regular tremor which is most easily seen in the upper limbs but which is also plainly visible in the lower limbs as well when the animal is held with the feet unsupported. Along with the tremor there is a marked change in the whole demeanour which is the more noticeable owing to the naturally lively disposition and active habits of the healthy monkey. There is progressive apathy with loss of natural curiosity and interest in surrounding objects, while the temper is irritable, interference being resented. There is loss of activity, as the animal sits still in one place on a perch or on the floor of the cage for long periods without moving; and there is increasing loss of muscular power, as climbing is done more slowly and evidently with greater effort as the symptoms advance. The attitude assumed is characteristic: the head is bent, the trunk is curved forwards, and the knees are drawn up so that the chin rests upon them, the joints of all four limbs being in a position of flexion. This attitude is well shown in Fig. 3 taken from one of my animals. Contractures owing to tonic spasm of the flexor muscles frequently occur; in fact, this attitude is, I believe, partly a result of these contractures as the limbs are often found to be rigid when it is adopted. Clonic contractions of the muscles are common. There may be a single contraction of a group of flexor muscles or a series of three or four may involve all the flexors of one arm, increasing in intensity until a position of extreme flexion at all the joints is reached, after which relaxation takes place until another series occurs. Irregular fibrillary contractions of the superficial muscles are often visible through the skin. In consequence of these symptoms the gait is stiff and unsteady, and when the contracture is excessive the animal is obliged to walk on the heels owing to the tonic spasm of the flexors of the ankle raising the toes and sole of the foot from the ground. There is a marked tendency to fall over backwards, so that if a banana is held over the animal's head it loses its balance in looking upwards at it and falls over backwards and a very slight push when the animal is sitting has a similar effect. True epileptic fits of greater or less intensity may occur. There may be a sudden loss of consciousness, so that if the monkey is on the perch at the time it falls to the ground. In one case I observed several epileptic fits in succession in which there was loss of consciousness, tonic spasm of the flexor muscles of the limbs, with risus sardonicus, followed by clonic contractions and micturition. In one fit there were in addition double internal strabismus with retraction of the eyelids and conjugate deviation to the left. Retraction of

FIG. 3.



Monkey after thyroidectomy, showing attitude and swelling of face.

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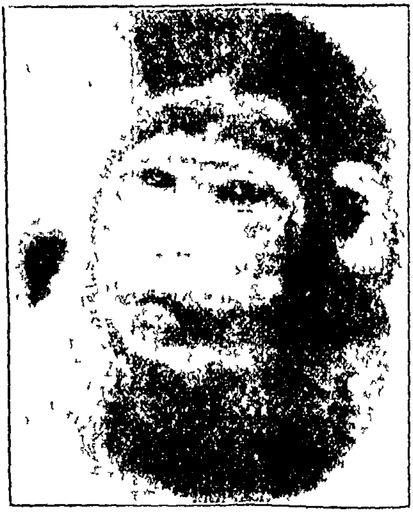
[15] Rivista di Pathologia Nervosa e Mentale, vol. i., 1896.
[16] Journal of Pathology, vol. iii., 1896.
[17] Ibid., vol. v., 1898.
[18] Report of the Clinical Society on Myxœdema, 1888.
[19] The expenses have been partly defrayed by a grant from the Scientific Grants Committee of the British Medical Association.

the head and salivation were also observed I have seen a temporary inability to use the arms owing to spastic rigidity limiting the movement, but not actual paralysis as described by Horsley who twice observed a complete temporary hemiplegia The temperature at first is raised and irregular, but it soon becomes subnormal Thus in one experiment the rectal temperature, which is usually 100°1 in this monkey was only twice below normal during the first week following the operation as it otherwise ranged between 100° and 102° During the second week it only once rose to the normal level being otherwise between 98° and 99 6°, while in the third week it varied between 97 6 and 100°, except on two evenings when it rose to 101° and 102 4° In one experiment I found the temperature as low as 80° four days before death

During the second and third weeks the myxœdematous swelling becomes distinct and as in man is most apparent in the face Both upper and lower eyelids become swollen and with this there is sometimes transverse wrinkling of the forehead Both lips are also swollen by the elastic œdema The appearance of the face is shown clearly in Fig 3 and Fig 4 which were taken from two different monkeys The

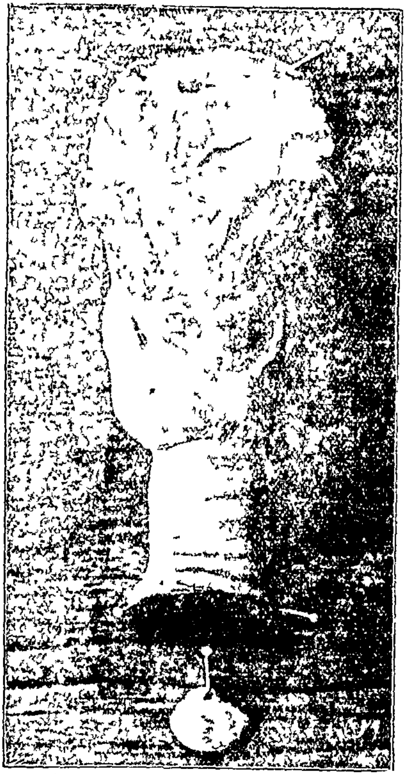
FIG 4



Monkey after thyroidectomy, showing swelling of eyelids and lips

skin more especially of the ears becomes dry and rough and the hair may be shed Examination of the blood shows that the red corpuscles are diminished and the white increased in number The average duration of life was found by Horsley to be 24 days but he showed that when the temperature of the air in the cage was maintained at 90°, the average duration of life was increased to 125 days while the symptoms ran a more chronic course like those of cretinism in man Without giving any further details of this interesting condition its resemblance to primary myxœdema in man is remarkable The course of the symptoms is much more acute than in man, partly because the supply of thyroid secretion is cut off suddenly by the operation, while in primary myxœdema the supply only gradually fails as the disease of the gland advances In both conditions we have the same progressive loss of mental and bodily activity, subnormal temperature, elastic subcutaneous œdema, dry skin, and loss of hair In the monkey we have, however, acute nervous symptoms which do not occur in primary myxœdema though some have been observed after thyroidectomy in man I would suggest, however, from the results of removing the parathyroid glands in rabbits and other animals that these symptoms are in part due to the loss of the parathyroids which, as we have seen, are removed along with the thyroid This view receives further support from the fact which will be considered later, that these acute nervous symptoms are not readily controlled by treatment with thyroid extract as might be expected were they purely thyroidal in origin The close anatomical association of the parathyroid with the thyroid renders the removal of the former without the latter, or *vice versâ*, very difficult in this animal Under these circumstances we can remove both together and afterwards give thyroid extract to prevent the onset of symptoms from loss of thyroid secretion The symptoms which then occur, as I hope to show in my next lecture are nervous in origin and are due, I believe to the loss of the parathyroids. Opportunities of observing the effects of total thyroidectomy in man have occurred in cases in which that operation has

FIG 5



Thyroid gland and pituitary gland from a case of myxœdema

been performed for goitre It is well known that in a certain number of these cases as a result of the loss of the thyroidal secretion symptoms develop which are identical with those of primary myxœdema Indeed, it was the striking similarity between the two noticed by Sir F Semon which led to the appointment of the committee by the Clinical Society of London, whose report proved the identity of the two conditions and their dependence upon loss of function of the thyroid gland

THE CHANGES IN THE GLAND IN PRIMARY MYXŒDEMA

In man only three of the diseases which occur in the thyroid gland appear to be capable of causing a sufficiently

A slight swelling of the upper and lower eyelids appeared. In the fourth week there was marked inactivity, the characteristic attitude was adopted, and the tremors were well marked. There was distinct myxœdematous swelling of the eyelids and lips. The red corpuscles were diminished and the white increased in number. The temperature showed marked daily variations and was subnormal on three mornings. On the twenty-sixth day treatment was commenced by subcutaneous injection of thyroid extract and continued till the forty-fourth day, 20 minims in all being injected during this period. As a result of this treatment during the fifth week the tremors, swelling, and anæmia all diminished and there was more activity. The morning temperature still continued to fall and was only 95·4° on the twenty-second day. The following day the animal had an epileptic fit followed by an increase of the tremors and fibrillary muscular contractions and spastic rigidity of the flexors of the limbs lasting for some hours. After this the improvement steadily continued till at the end of the seventh week all the symptoms had disappeared and with the exception of a slight loss of weight the monkey was as well as before the operation. The treatment was discontinued and the symptoms returned again much in the same manner as they had at first. Treatment was again resumed but too late, as dysentery developed in addition to the myxœdematous symptoms and the animal died 13 weeks after the operation. Fig. 3 shows this animal after the return of the symptoms.

II. A male bonnet monkey. In this case the symptoms first began two days after thyroidectomy and were well marked by the fourteenth day when treatment was commenced by injections of a solution of the alcoholic precipitate of thyroid extract in glycerine and water. The symptoms had disappeared by the twenty-sixth day. The symptoms again returned and although improvement followed the use of thyroid extract death occurred after several severe convulsions on the sixty-ninth day.

III. In this experiment the symptoms commenced as early as the first day after thyroidectomy. Treatment was commenced on the fifth day by injections of a solution of a nucleo-albumin prepared from fresh thyroid glands by Halliburton's method in a 2 per cent. solution of sodium carbonate. There was some temporary improvement in the symptoms, but they returned in spite of continued treatment, and death took place on the twelfth day. This experiment, however, is of doubtful value, as Hutchison[31] has since maintained that a solution thus prepared would not contain the active secretion of the gland.

In these three experiments, though the actual presence of the parathyroid glands in the thyroid was not proved by microscopical examination, there can be little doubt that they were removed with it. In the two following experiments the animals were treated with thyroid extract for some time before as well as after the removal of the thyroid gland along with the parathyroids as ascertained by microscopical examination.

IV. A small male bonnet monkey was given one minim of thyroid extract by the mouth per diem for 44 days and then three minims daily for the next 31 days when the thyroid and the parathyroid glands were removed. The same dose of three minims was continued after the operation. No symptoms at all developed till the forty-second day after the operation. On this day it was noticed that on climbing down from the perch the monkey fell part of the way on to the floor of the cage and was unable to climb up again. It then showed general fibrillary twitching of the muscles in all parts of the body. The arms were rigid owing to spasm of the flexor muscles, which could be overcome without much difficulty but returned at once. The legs also were flexed at all the joints except the ankle-joints, which were extended, There was no subcutaneous swelling of the face or elsewhere. The rectal temperature was 100·6° F. A dose of six minims of liquor thyroidei was given but the animal became worse and died the same day.

V. A small male bonnet monkey was given one minim of thyroid extract by the mouth for 44 days, the daily dose was then increased to three minims for the next 42 days, when the thyroid gland was removed with the parathyroid glands. The dose of thyroid extract was continued as before. On the eleventh day after the operation there was some loss of activity and the lower eyelids were slightly swollen. After this there was progressive loss of strength and activity and the eyelids and lips became more swollen. Spastic rigidity of the limbs developed and on the nineteenth day after the operation the animal was found lying dead at the bottom of the cage. The swelling of the face was largely due to the presence of a fluid œdema which escaped when the skin was incised.

It is thus evident that although in some cases the symptoms which follow thyroidectomy in monkeys disappear when the loss is made good by giving thyroid extract, in others there is *only* an improvement and death afterwards results with acute nervous symptoms. Edmunds[32] has also found that under similar circumstances thyroid extract produces a marked benefit but does not save the life of the animal. From these facts and from the results of removal of the parathyroid glands in other animals it seems most probable that the acute nervous symptoms in the monkey such as the fibrillary twitchings, the spastic rigidity, and perhaps also the tremor and convulsions are largely due to loss of the parathyroids, while the subcutaneous swelling, dryness of skin, loss of hair, subnormal temperature, and changes in the blood are due to loss of the thyroid secretion. This conclusion receives further support from the close resemblance of the latter symptoms to those of primary myxœdema in man which we know to be the result of disease of the thyroid glands, there being no evidence as yet to show that the parathyroids are affected in this disease. If this be the correct explanation it is not surprising that these particular symptoms are not influenced by the thyroid extract.

TREATMENT OF MYXŒDEMA BY THYROID EXTRACT.

In primary and secondary myxœdema in man we see the results of loss of thyroid secretion pure and simple and consequently are able to remove the symptoms entirely by giving a sufficient supply of the secretion. Soon after I first determined to try this method of treatment in myxœdema I was fortunate enough to come across a well-marked case in a woman who, after the nature and experimental character of the treatment had been explained to her, was bold enough to give full permission for it to be carried out whatever the result might be. The patient having been shown at a meeting of the Northumberland and Durham Medical Society and the proposed treatment described it was commenced in April, 1891. The symptoms soon disappeared, proving the correctness of the conclusions which had led to the suggestion of the remedy. Nearly eight years have elapsed and this first case still remains free from myxœdema.

We may now briefly consider the method of carrying out this treatment of myxœdema. The main objects of the treatment are to remove the symptoms by restoring normal metabolism as rapidly as possible without risk to the patient, and when this has been accomplished so to regulate the treatment as to continue the supply of thyroid secretion in sufficient quantity to maintain the normal rate of metabolism of the tissues generally. For this purpose the treatment is divided into two stages. During the first stage the tissues are gradually brought back to a normal condition. This may, according to the severity of the symptoms, require from one to three months. As soon as the symptoms have entirely disappeared the first stage is completed. The condition of the atrophied thyroid gland is not influenced by the treatment so that if the artificial supply of secretion is discontinued at this or any other time of the patient's life all the symptoms of myxœdema will gradually return as I have found by actual experience. Thus the second stage of the treatment of necessity lasts as long as the patient lives. It is therefore necessary to make the permanent daily dose as nearly as possible equivalent to the normal amount of secretion. If the dose falls below this slight symptoms of myxœdema will reappear and if it is excessive a condition of thyroidism will be produced.

PREPARATIONS OF THYROID SECRETION.

Thyroid secretion can be given in several different forms. The actual gland itself containing the secretion may be used and is a useful form when the patient lives in some remote place or when it is necessary to make the treatment as inexpensive as possible. Arrangements can easily be made for the regular supply of one lobe of the thyroid gland of a freshly killed sheep twice a week by a butcher who has once been shown where the gland lies and the ease with which it may be removed. From one-eighth to one-quarter of a lobe is a suitable daily dose of the sheep's gland, one-quarter of a lobe being equivalent to about 10 minims of liquor thyroidei. As the raw gland is somewhat nauseous it should be minced and taken in glycerine or some similar vehicle in order to make it palatable or it may be lightly cooked on the outside by frying or boiling before it is eaten. As a rule, it is much better to employ one of the preparations of the thyroid gland rather than what may be termed the crude drug itself. Of these two are now official, liquor thyroidei and thyroideum siccum, the former of which is simply the original liquid thyroid extract. The liquor thyroidei is the most convenient preparation for general use and in my experience the most efficient. It is prepared from a considerable number of glands at a time, so that the strength is uniform. In prescribing it should be ordered in the undiluted form and not more than a sufficient supply for a fortnight should be obtained at one time. The patient must be provided with a minim measure glass and measure out the dose of five or 10 minims as the case may be, adding a dessertspoonful of water at the time it is taken. This preparation is conveniently given in a single daily dose at bedtime. The dry thyroid of the Pharmacopœia may be given as a powder or made up into a pill or tablet. If the dried preparation becomes damp at all it is liable to decompose and become unfit for use.

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[31] Journal of Physiology, vol. xx., 1896.

[32] Proceedings of the Royal Society, vol. lxiv.

METHOD OF TREATMENT.

In advanced cases the first stage of the treatment must be carried out with great caution, especially if any symptoms of degeneration of the cardiac muscle, such as attacks of syncope, dyspnœa on exertion, feeble or irregular pulse, or weak heart sounds are present. Under these circumstances the patient should be confined to bed at first and only small doses of from three to five minims of liquor thyroidei given each night. This dose if well borne may be gradually increased up to 10 minims. If not confined to bed these patients are apt to make use of their returning vigour too soon, before the heart has had time to recover and to adapt itself to the altered conditions brought about by the treatment. These advanced cases in which little exercise has been taken for months or even years are now rare, but in the early days of the treatment the importance of this caution was painfully impressed upon me by the deaths of two patients from syncope who had cardiac disease, after they had practically got rid of the symptoms of myxœdema. Any undue acceleration of the pulse up to 90 or 100 indicates that a reduction should be made in the dose and any signs of cardiac failure must be met by giving stimulants and digitalis. By far the greater number of cases which require treatment are now seen in the early stages of the disease before any cardiac symptoms have developed. In these the patient is able to go about as usual, though it is advisable to avoid any unusual exertion during the first stage of the treatment. A daily dose of 10 minims of thyroid extract may be given each night from the beginning and increased to 15 minims at the end of a fortnight if decided improvement has not already taken place. Any marked increase in the frequency of the pulse or rapid loss of weight is an indication for at once reducing the dose. Symptoms of gastro-intestinal catarrh have sometimes arisen during this first stage of the treatment especially if the raw gland has been used. They rarely if ever appear if a suitable preparation of the gland is used instead. If they do occur the thyroid treatment should be stopped until they have passed away and then smaller doses should be given when the treatment is again commenced. In many cases no other treatment beyond the daily dose of thyroid extract is required. When, however, there is a well-marked anæmia it is a good plan to give iron as well as thyroid extract. Five grains of dried sulphate of iron in a pill twice or thrice daily after meals is a suitable form in which to give it.

As soon as all the symptoms of myxœdema have disappeared the first stage of the treatment is completed. The second stage then commences and must of necessity last as long as the patient lives. During this stage the patient must continue steadily to take a daily dose of thyroid extract equivalent to the daily output of the gland before it became diseased or at any rate of that part of it which has become functionless. It is important that patients should understand this and that good health can only be maintained by the continued use of the remedy. To ensure this it is often better to describe the remedy as an essential part of the daily diet and not as a medicine so as to overcome the objection some persons have to taking what they regard as a medicine for such long periods. Of course, an occasional intermission of the treatment for a week or so has little or no effect, but if no thyroid extract is taken for three or four weeks the temperature falls one or two degrees below normal and the myxœdematous swelling of the face begins to develop again. If the extract is omitted for a longer period still all the original symptoms gradually reappear till at the end of three or four months the condition will be much the same as it was before any treatment was adopted. The most suitable dose for the second stage of the treatment is, generally speaking, 10 minims of the extract given once a day. If after a time any slight symptoms of myxœdema reappear the permanent dose should be increased to 12 or 15 minims. In none of my own cases has it been necessary to give more than 10 minims; in a few cases this dose is too large, as after a time it produces acceleration of the pulse. The permanent dose has then to be fixed at five or seven minims a day. In doubtful cases of myxœdema thyroid extract may be given as a means of diagnosis. For this purpose a dose of 10 minims should be given daily for three or four weeks. If the symptoms steadily diminish they are the result of thyroidal disease; if, on the other hand, no improvement takes place they are due to some other cause. This test is of great use in distinguishing some of the cases with anæmia and subcutaneous swelling from cases of anæmia with ordinary obesity which they often closely resemble.

RESULTS OF THE TREATMENT OF MYXŒDEMA.

When the treatment of a well-marked case of myxœdema is carried out on the lines just indicated very definite and interesting results are soon obtained. One of the earliest signs of improvement is in the return of the temperature to the normal level. This is illustrated by one case in which the temperature before treatment ranged from 95° to 96° F., whereas during the second, third, and fourth weeks of treatment it varied between 96° and 98°. As the temperature rises to normal the former sensitiveness to cold is lost and the frequency of the pulse is increased. The most striking changes are those which take place in the skin with its appendages and in the subcutaneous tissues. The myxœdematous swelling gradually disappears from all parts of the body so that the face and hands once more assume their natural appearance and the free movement of the limbs which has been considerably hampered by the swelling is regained. The reduction of the swelling is accompanied by a loss of weight which may amount to as much as two or even four stones. The skin, which as a result of the removal of the swelling may for a time remain loose and wrinkled, becomes warm and moist owing to a renewal of the secretory activity of the sebaceous and sweat glands. Not infrequently there is some desquamation which may occur in fine scales or in large flakes from the palms of the hands and soles of the feet, as observed by Byrom Bramwell.[33] The hair follicles resume their proper function, so that even where there has been complete baldness a good growth of hair is developed in the course of six or 12 months. Considerable changes are thus produced in the appearance of the patient and they are well illustrated by the four photographs shown in Figs. 8, 9, 10, and 11. They both illustrate the changes which take place in the appearance of the patient *pari passu* with the advance of the local disease of the thyroid gland and the result of treatment. This case was kindly placed under my care by Mr. James Angus of Newcastle-on-Tyne, and although I have published Figs. 8 and 9 before I venture to reproduce them along with two earlier photographs of the same case for which I am indebted to my colleague Dr. Thomas Oliver. Fig. 8 was taken in 1883, four years after the symptoms first appeared in 1879. Fig. 9 was taken in 1890, showing a more advanced stage of the disease, and Fig. 10 in 1891 just before the treatment was commenced when the disease had already existed for 12 years. Fig. 11 was taken in 1892 after treatment for seven months and shows that the swelling has disappeared and a good growth of hair has taken place. As already mentioned, this patient died from mitral disease in 1897 when the thyroid gland was found to be entirely converted into fibrous tissue and fat as was shown in Fig. 7.

In addition to these very obvious signs of improvement the feeling of lassitude passes away and normal muscular strength and activity are regained. As a result of this those who before treatment could barely walk a mile are enabled to walk long distances, climb mountains, and undertake various other forms of exercise, mental processes become more active, the memory improves, and the hallucinations disappear. In some cases in which actual insanity had occurred it also has been cured. If albuminuria without actual renal disease has been present it disappears while the amount of urine is increased. The observations of Ord and White[34] show that the total amount of nitrogen eliminated is increased and that this increase is almost entirely due to the increase of urea in the urine. At first the amount of urea excreted may not only equal, but actually exceed, the normal average quantity. The number of red corpuscles in the blood increases. In patients who have not reached the menopause menstruation returns and takes place regularly even when there has been amenorrhœa for several years. In fact, the myxœdema is entirely cured though the fibrosis of the thyroid gland remains unaffected by the treatment.

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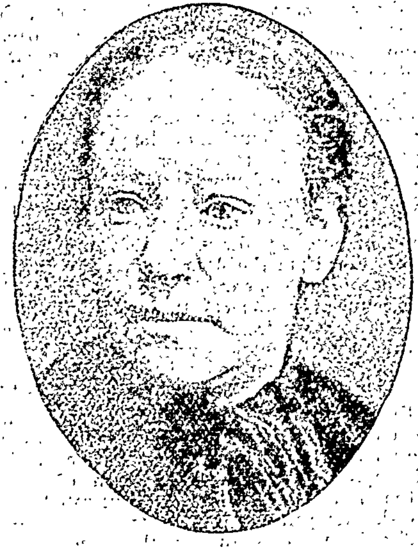
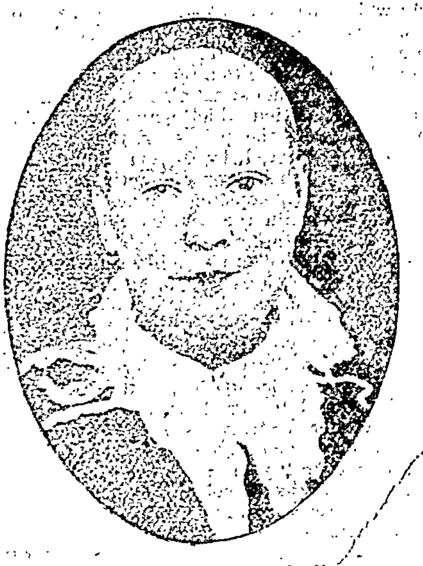
[33] Brit. Med. Jour., March 24th, 1894, p. 618.

FIG. 8.



Four years after the commencement of the symptoms.

FIG. 9.

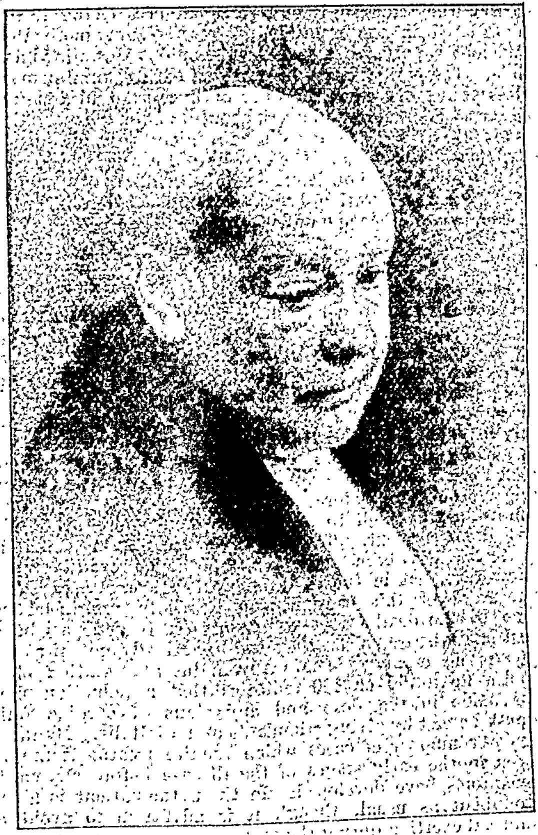


Eleven years after the onset of the disease.

TREATMENT OF CRETINISM.

We have already considered the results of athyroidism in young animals and children and have seen how they are more serious than in the adult owing to the arrest of development. The treatment of a cretin consequently presents a more formidable task, but the results are in some respects even more interesting than those just described. I would again point out the importance of carefully considering the possibility of the presence of disease or lack of development of the thyroid gland in every case of arrest or delay of development in children. In all such cases it is important to look for slight signs of cretinism. There are of course other causes of arrest of growth, such as achondroplasia, but I have seen several cases where the ordinary symptoms of cretinism were not distinct and might easily escape observation if not searched for carefully, in which the rapid improvement following thyroid treatment has proved that the arrest of development was due to thyroidal insufficiency. The importance of early diagnosis in such cases lies in the fact that the earlier the treatment is commenced the better prospect there is of normal development of the central nervous system. Experience has already shown that in cretinism of some years' duration rapid as the improvement in the physical condition may be the intellectual development is much slower, so that when treatment is commenced late it is doubtful if the latter will ever advance as far as when treatment is started early. If any doubt exists as to the diagnosis it is a good plan to carry out the treatment for one or two months. If no distinct improvement takes place the want of development is not due to cretinism, for in other forms of arrested growth the treatment has comparatively little effect though it is worthy of trial. The treatment of early cretinism is carried out on

FIG. 10.



At commencement of treatment when the disease had lasted for 12 years.

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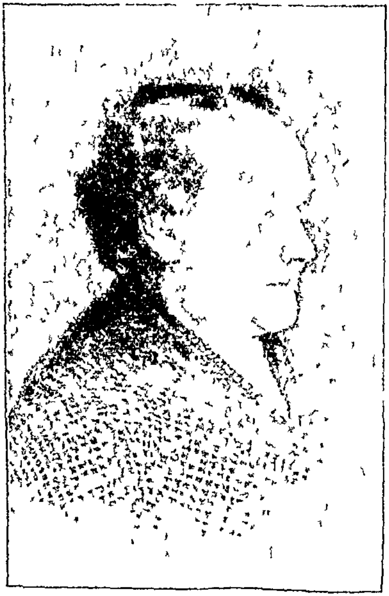
[34] Brit. Med. Jour., July 29th, 1893, p. 217.

the same lines as the treatment of myxœdema in the adult. During the first stage gradually increasing doses of thyroid extract are given till the symptoms disappear. It is advisable in treating a small cretin to begin with a dose of one or two minims each evening, gradually increased by the addition of one minim each week or fortnight until a dose of five, seven, or 10 minims, according to the size of the child, is reached. As the child gets older it may be found necessary to increase the daily dose from time to time by the addition of another minim. If too large doses are given the pulse becomes too frequent, pains may be felt in the limbs and elsewhere, the temperature may rise above the normal level, and purging may follow. As in the adult the treatment must be continued as long as the patient lives. As soon as the symptoms have disappeared it is only necessary to determine the most suitable permanent dose and to ensure its uninterrupted administration.

In the treatment of cretinism which has lasted for some years we have a much more difficult task to perform, but very good results can be obtained. Even when the disease has already lasted 10 or 12 years, provided the patient is not more than 18 or 20 years old, a remarkable amount of growth can still take place. In these cases from three to five minims of thyroid extract may be given at the commencement and increased according to the progress observed. Even in cases in which the symptoms have lasted for 20 or 25 years some growth and marked improvement in all the symptoms take place. In cases of long duration attacks of syncope are not uncommon. In such the earlier part of the treatment is more safely accomplished by keeping the patient in bed and giving small doses of one or two minims only at first.

FIG 11

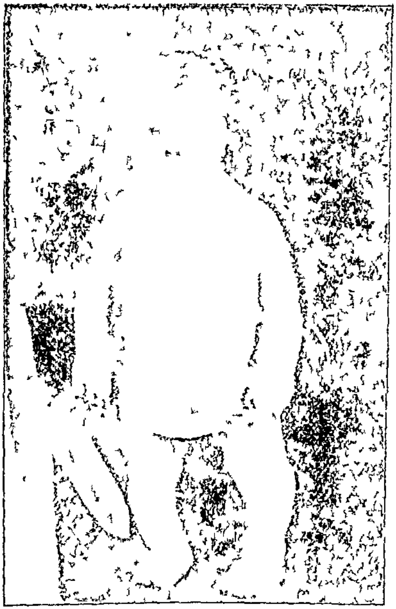


After treatment for seven months

Results of the Treatment of Cretinism

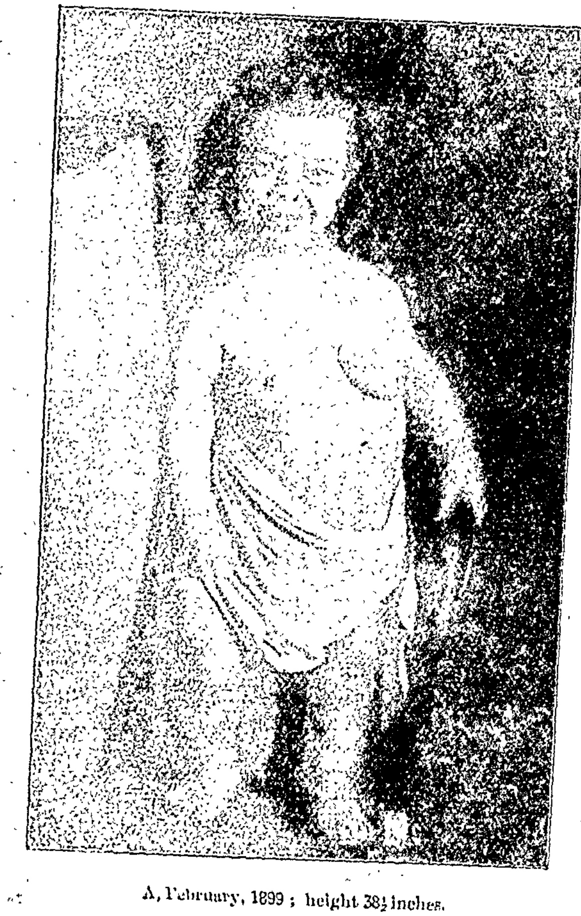
When the necessary stimulus to the normal metabolism of growth is thus supplied to a cretin in the early stages of the disease the symptoms disappear. The swelling gradually diminishes in all parts of the body. The tongue, lips, and nose diminish in size so that the appearance becomes natural. The skin becomes soft and moist and the temperature rises to normal. Growth which at this early stage will only have been partially arrested starts afresh. If the treatment is continuously carried on in such a case from the earliest time at which the disease is recognisable there seems no reason to doubt that ultimately the child will grow up into a fully developed healthy adult who, however, would of course at any time develop symptoms of myxœdema if his supply of the extract was discontinued. The amount of improvement which may take place in very advanced cases is well illustrated by the further course of the case (A) described and shown in Fig 12. In this case the symptoms had been present for some 27 years before treatment was commenced. The dose was at first one drop a day, and has been gradually increased till now she takes 15 drops, equal to about 12 minims of thyroid extract daily. At the commencement of the treatment growth had been arrested, apparently for many years, as she only measured 34½ inches in height. She now measures 38½ inches, having grown four inches in three and a half years. The hair is much less coarse than it used to be and the scalp is white and smooth. The swelling has greatly diminished so that the nose, cheeks, and lips are much smaller than they were and the whole expression is much more bright and intelligent. The mouth is kept closed and the tongue has become normal in size and no longer protrudes between the lips. The condition of the teeth does not seem to have improved except that she can now crack nuts which she was unable to do before. The elastic pads have disappeared from the supra clavicular regions. A most remarkable development of the mammary glands, which before treatment were [illegible]loped, has [illegible] place. This is [illegible] pl[illegible] (Fig 13) in [illegible]

FIG 12



A, age 23 years June 1895 height 34½ inches breasts are now very well developed. Some pubic hairs have grown and menstruation which had only occurred very scantily on a few occasions is now regular and abundant. The abdomen is less prominent and the umbilicus is retracted. There is still marked lordosis. The *skin is much less dry* and perspires freely when she is walking. She is much more energetic and the muscular strength has increased so that she can now walk two miles. The temperature has long been normal. She is distinctly more intelligent, her vocabulary has increased, she can recognise people and animals, and can make her wants perfectly understood. She is unable, however, to frame a sentence and uses only single words, or at most two or three together. She is careful and cleanly in her habits.

FIG. 13.



A, February, 1899; height 38½ inches.

This case is a good example of the amount of improvement of which even the worst cases are capable. Greater improvement still has been *obtained in cases* of some years' duration in which the patients are still under 20 years of age. Thus in Dr. John Thomson's[35] patient, aged 18 years and eight months, 33½ inches in height, there was an increase in the height of four and three-eighth inches in 12 months; and in Dr. Byrom Bramwell's[36] patient, aged 16 years and four months, 29½ inches high, growth was at the rate of six and a half inches in six months.

The intellectual development is always much slower than the bodily growth and general improvement in all other respects. *The shorter the duration of the symptoms has been* at the commencement of the treatment the more rapid the improvement in the mental condition and I think it is only in cases in which the treatment is started early that we can expect normal intellectual development to take place. In cases of some duration it is important that a special education should be carried on at the same time as the treatment in order that the patient may be able to make the most of the renewed cerebral activity.

The Milroy Lectures

ON

THE EARTH IN RELATION TO THE PRESERVATION AND DESTRUCTION OF CONTAGIA.

Delivered at the Royal College of Physicians of London on Feb. 23rd and 28th and March 2nd, 1899,

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LECTURE III.[1]

Delivered on March 2nd, 1899.

AGRICULTURE.

MR. PRESIDENT AND GENTLEMEN,—The facts with which we have been dealing in these lectures show:—1. That there are certain organisms which are indigenous to the soil and ubiquitous. These organisms, if they contaminate a surgical wound or are inoculated, may cause septicæmia, erysipelas, malignant œdema, or tetanus. They are very *possibly* necessary saprophytes, and we recognise that it is useless to attempt to "stamp out" the germs of these surgical contagia, although (thanks to Lord Lister) the surgeon is able to protect his patient from the evils which arise from them and to prevent their cultivation in hospitals. Apart from accidental inoculation these organisms are not dangerous. We must often swallow them with our food and drink and inhale them with our breath and no practical harm results. These contagia are persistent in the soil and are probably most common in soils which are richest in organic matter. 2. The contagium of anthrax is apparently difficult to eradicate from a soil which has once been contaminated with it. This is probably due to the fact of sporulation and to the spore being very resistant to external influences of all kinds. The evidence, such as it is, points to the fact that in temperate countries at *least* the contagium dies out *of the soil in time.* M. Pasteur's experiments were vitiated by the circumstance that they were made in districts where the *disease* was and had been rife. More information is needed as to how far the infection of animals depends upon wounds of the skin or mucous membrane and on the vulnerability of the animals by the mal-hygienic conditions in which they live. It is possible that in tropical countries the bacillus anthracis is indigenous to the soil. Man apparently does not acquire anthrax by inhaling or swallowing pulverised earth. He is always infected through the medium of infected animals or their skins, flesh, or wool. 3. To what extent malaria is directly a soil disease, apart from the mosquito as a connecting link, is in the present state of our knowledge doubtful. There is no doubt, however, that malaria disappears before drainage and cultivation. 4. With regard to enteric fever, diarrhœa, plague, and some other diseases there can be no doubt that they are all favoured by filth although we are ignorant of the precise way in which filth favours the occurrence of these diseases. Some might say that a filth disease is a soil disease and that there is no line of demarcation between the two. This is true, but it is nevertheless very necessary for practical purposes to distinguish the one from the other. We are all agreed that it is dangerous to allow the purlieus of a house to become sodden with liquid filth, but it might be equally dangerous to the public health to encourage the idea that it is dangerous to dung the land for fear of inoculating it with infectious disease. Happily, from the laboratories we get comfort in this matter. Sidney Martin has shown (as Dempster had previously shown with regard to peat) that "virgin soil," whether sandy or peaty, is, even when sterilised, fatal to the bacillus typhosus, and one naturally asks, What is virginity? and whether cultivated soils by excessive production do not tend, paradoxical as the question may sound, to return to that condition of virginity in which they are able to grapple with infective organisms? The evidence goes to show that cultivation and production are the enemies of dung infections. Robertson and Gibson found that a growth of grass was fatal to the bacillus typhosus. That dung contagia must be destroyed or their virulence be diminished by tillage is self-evident. Were it otherwise our race must long since have been extinguished. The race which has shown the greatest persistence in this world (the Chinese) is precisely that one which has systematically inoculated its native soil with dung contagia for three or four millennia. Politically they are said to be sick but physically and economically they are "going strong" and are likely to continue. 5. The fact that most of the alleged soil diseases are more rife in the crowded centres of population than in the rural districts is a fact which must not be lost sight of. Whether this be due to the greater vulnerability of town populations or to the soakage of the purlieus of the house from leaking sewers it is difficult to say. In any case it is incontestable that soil diseases (so-called) are most rife precisely in those spots where the ground is not cultivated.

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[35] Edinburgh Medical Journal, February, 1844.
[36] Brit. Med. Jour., Jan. 6th, 1894.

[1] Lectures I. and II. were published in THE LANCET of Feb. 25th and March 4th, 1899, respectively.

Infective organisms contained in dung have to run the gauntlet of many enemies, such as dogs, sparrows, rats, flies, maggots, beetles, earthworms, moles, sunlight, fresh air, innumerable saprophytes (both aerobic and anaerobic), and the chemical action of the roots of plants. Of course, there may be spores which emerge from these ordeals unharmed and still virulent, but it is evident that, being mortal as we are, they are likely to succumb before the digestive and disintegrating processes which they encounter. The bulk of the evidence goes to show that contagia must be largely destroyed in the soil and that agriculture is really the cornerstone of preventive medicine. It becomes of great importance, therefore, to devise means by which the fertilising material of our towns may be applied to the soil with safety and despatch.

I may be pardoned for reverting to the method of dealing with human excreta which I have practised now for 12 years in my experimental garden at Andover: (1) the excreta are moved every day so that there is no accumulation of filth near the dwelling; (2) they are put just below the surface of freshly-dug ground so that they are out of the reach of flies; and (3) the ground is planted with plants of the cabbage order as quickly as may be so that very soon there is no possibility of dust being blown off the surface of the ground, and the mass of living cabbage leaves freshens the air. I cannot believe that dust from agricultural land is a danger in this country whatever it may be in the tropics. In my garden the ground treated in the manner stated, apart from the growth of cabbages, soon becomes coated with a green growth of alga. Mr. A. Gepp of the Natural History Museum who visited my garden last summer took some of this growth away and very kindly examined it and he pronounced it to be an alga—"chiefly vaucheria sessilis (in good fruiting state) with a little ulothrix, a glœocystis, and an oscillatoria." Such a growth effectually prevents the possibility of dust.

Dr. Samuel Hyde[2] speaking on the Open-Air Treatment of Consumption says: "Sparseness of vegetation, like thinness of population, is a climatic factor favourable to the treatment of consumption. Where vegetable life abounds there vegetable decomposition must also abound and *vice versâ.* Wherever there is life we have a corresponding amount of death accompanied necessarily by the products of decomposition." This is quite true and our experience teaches us that, provided the supply of food be adequate, a high level of health may be maintained in places where there is little or no vegetation, as upon the sea and on alpine heights and in arctic solitudes. "Wherever there is life," says Dr. Hyde, "we have a corresponding amount of death." That is true, but the converse is also true and we may say that wherever there is death we have the potentiality of a corresponding amount of life. I believe that what I have called the circulation of organic matter is a beneficent fact from which there is no escape and that whether we derive good or ill from the inevitable processes of death and decay depends very much upon ourselves. We must never forget that vegetation purifies the soil, freshens the air, rests the eye, and prevents dust, and these facts must be recognised as to a great extent counterbalancing the evils of dead leaves.

There are always *pros* and *cons* which have to be weighed. Nothing makes entirely for good or entirely for evil and we have always to balance our accounts and to see whether the general effect be good or ill. The British sanitarian is so circumstanced that he need not trouble himself at all about the most important of all sanitary considerations—viz., food-supply. He is busy in burning or washing into the sea every kind of fertilising matter, and if a general coal strike or a war were to suddenly bring famine with its attendant diseases to our doors he would protest that that was no concern of his. With our steadily diminishing birth-rate and the daily increase of institutions for the reception of those whose moral, mental, or physical diseases prevent them from earning their own living it is difficult to believe that the stamina of our highly civilised urban populations is increasing. Apart from the question of food-supply, it is, I believe, absolutely necessary to encourage agriculture in order that our race may be maintained in vigour. The strong contrast which exists between the agriculturist and the town worker in the matter of health is well known.

Dr. Tatham's letter to the Registrar-General on the mortality of males engaged in certain occupations in the three years 1890-92, which constitutes Part II. of the Supplement to the Fifty-fifth Annual Report to the Registrar-General, shows clearly enough that the agricultural classes in this country enjoy a large measure of health. Dr. Tatham's statistics refer to occupied males between the ages of 25 and 65 years and the tendency to disease and death is indicated by a mortality figure, the mortality for all males between 45 and 65 years of age being taken as 100. The following table taken from p. 18 of this report shows the mortality of three great classes of the community with perfect clearness.

Table (deduced from Table IV.) showing the mortality from certain specified causes in each of three sections of occupied males, as compared with that among all occupied males, the mortality of the latter being taken as 100 in each case.

—	All occupied males.	Occupied males, London.	Occupied males, industrial districts.	Occupied males, agricultural districts.
All causes	100	120	131	72
Influenza	100	100	100	100
Alcoholism	100	138	146	54
Rheumatic fever	100	100	114	86
Gout	100	300	100	100
Cancer	100	134	109	91
Phthisis	100	150	121	73
Diabetes	100	114	100	100
Diseases of the nervous system	100	107	132	77
Diseases of the circulatory system	100	107	122	75
Diseases of the respiratory system	100	124	166	61
Diseases of the liver...	100	111	119	89
Other diseases of the digestive system	100	100	129	82
Diseases of the urinary system	100	137	122	73
Accident	100	86	105	79
Suicide	100	129	114	88
Other causes	100	91	130	76

The following table which is deduced from Table IV. shows the mortality from certain specified causes in the agricultural class as a whole and in its several divisions as compared with the standard mortality among all occupied males, the latter being taken as 100.

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[2] Brit. Med Jour., Oct. 8th, 1898.

—	All occupied males.	Occupied males in agricultural districts.	Agricultural class.	Agriculturists in agricultural districts.	Farmer, grazier, &c.	Farmer, grazier, &c., in agricultural districts.	Farm labourer.	Labourer in agricultural districts.	Gardener, nurseryman.
All causes	100	72	63	64	59	53	66	70	58
Influenza	100	100	109	112	115	112	112	118	82
Alcoholism	100	54	31	31	46	31	31	31	31
Rheumatic fever	100	86	86	71	86	71	71	57	100
Gout...	100	100	50	50	50	100	50	50	50
Cancer	100	91	82	84	82	77	82	86	82
Phthisis	100	73	57	63	43	44	62	70	61
Diabetes	100	100	86	86	143	157	71	71	57
Diseases of nervous system...	100	77	62	63	62	50	65	71	57
Diseases of circulatory system	100	75	66	68	61	52	71	75	61
Diseases of respiratory system	100	51	52	49	41	29	58	57	48
Diseases of the liver	100	89	63	59	96	81	48	56	63
Other diseases of digestive system	100	82	82	75	96	75	79	75	64
Diseases of urinary system	100	78	59	59	71	68	51	56	63
Accident	100	79	63	68	53	54	74	77	39
Suicide	100	86	71	71	100	129	57	50	71
All other causes	100	76	73	76	65	61	79	86	61

Out of the 16 causes specified in this table, there is only one in which the mortality of agriculturists as a class exceeds that of occupied males generally. The exception is influenza, the mortality from which disease shows an excess equal to 9 per cent. The chief excess under this heading probably occurred in the first quarter of the year 1892, which was marked by a severe outbreak of influenza specially affecting the country districts. The mortality among agriculturists from phthisis does not exceed 57 per cent., and that from diseases of the respiratory system does not exceed 52 per cent. of the standard mortality among occupied males, and their mortality from all other diseases of the local class is considerably below the same standard.

These tables show conclusively that agriculturists are among the healthiest class in the community and that even the farm labourer in the matter of health is 33 per cent. better than the average. This is a matter of great interest and importance. He is often represented as half starved, miserably housed, a martyr to rheumatism, and poisoned by filthy water. As a matter of fact as regards sobriety and health he might be taken as a model by the rest of the industrial classes. There is another point of view from which agriculture is of great importance. We are beginning to find out that a factory hand who has to keep pace with steam machinery becomes "too old for his work" at a comparatively early age. Defects of eyesight or hearing or a lessening of acuteness and nimbleness soon unfit a man for employments where dexterity is of more importance than experience. There has been much talk of late of "old age pensions," but it must be admitted that even if the financial difficulties of the question could be overcome the prospect of being *without employment* and existing on a pittance without any true interest in life after the age of 55 years is not cheerful. I believe that the practice of agriculture is [illegible] only remedy for this and that the best old age [illegible] will be found in the possession of an acre or [illegible]d. Not only are the ordinary horticultural [illegible] possible for a man long after he is capable [illegible] machinery but such a possession would [illegible]tual in life and he would find that the pro[illegible]th and would certainly increase with time [illegible] the amount of skill and labour [illegible]ltivation and the quantity of [illegible] soil.

[illegible] mental [illegible] treatment [illegible]try at the present day. I [illegible]ctual develop[illegible]ilities for the transfer of [illegible]pear to show that the [illegible] essential, apart from the [illegible]nance of the vigour of our race. Anything which discourages or increases the difficulties of agriculturists can hardly be in the interests of the public health.

THE MAINTENANCE OF THE FERTILITY OF THE SOIL.

There is much evidence to show that dung is absolutely necessary to maintain the fertility of the soil. In a paper by Sir John Lawes and Sir Henry Gilbert on the valuation of unexhausted manures[3] the difference between organic manures and mineral manures is well brought out. The lasting effects produced by farmyard manure (14 tons to the acre) are shown in the annexed table.

TABLE I.—*Experiments with Farmyard Manure on Permanent Grass Land.*

—		Unmanured every year.	Manured 1856–63; unmanured since.	Excess of manured over unmanured.
		cwt.	cwt.	cwt.
8 years 1856–63	1st crops only	23¾	42⅞	19⅛
12 years 1864–75		19⅝	32⅞	13¼
20 years 1876–95 (1st and 2nd crops)		25⅞	29⅞	4

In only one year—1893, a year of drought—did the manured plot give less produce than the unmanured. The authors say: "It is true that the application of 14 tons of farmyard manure per acre per annum for eight years in succession is an unusually heavy dressing; but it is of interest to know that the residue was very materially effective for some years, and that it was more or less so for THIRTY-TWO YEARS after the application" (the capital letters are my own). The following table giving experiments with barley tells the same tale.

TABLE II.—*Experiments with Barley 1852–96.*

—	Unmanured every year.	Mixed minerals every year (no nitrogen).	Farmyard manure.	
			Every year.	20 years 1852–71; unmanured since.
	Bushels.	Bushels.	Bushels.	Bushels.
20 years 1852–71 ...	20	27½	48¼	48¼
25 years 1872–96 ...	12⅞	16⅞	49¼	29

The above table shows that the effect of the farmyard manure is very appreciable for at least a quarter of a century. It also shows that when farmyard manure was used every year the yield for the final 25 years was greater than in the first 20 years. It also shows that the increase by using mineral manures without nitrogen is appreciable but slight. The use of rape-cake as an organic manure for barley gave interesting results which are set forth in Table III.

TABLE III.—*Rape-cake as a Manure for Barley 1852–91.*

—	Rape-cake alone.	Rape-cake with mixed mineral manures and nitrate *of soda.*
	Bushels per acre.	Bushels per acre.
20 years 1852–71 ...	45¼	49¾
" " 1872–91 ...	37⅛	41¼

It is to be noticed that the reduction in produce in the second 20 years as compared with the first amounted to more than eight bushels per acre. The reduction in the second 20 years was, in the opinion of the authors, mainly due to less favourable seasons, but nevertheless it is shown that

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[illegible] Medical Journ[illegible]

[illegible] Med. Jour., [illegible]

[3] Journal of the Royal Agricultural Society, vol. viii., 1897, p. 674.

the yield with farmyard manure for the 25 years 1872-96 was 49 bushels as against 46¼ for the 20 years 1852-71. The experiments made in growing clover on rich garden soil are of great interest. This has been done for 40 years in a part of the Rothamsted kitchen garden which has been in cultivation for two or three centuries. The average yield for the 40 years was 59¼ cwt. or nearly three tons of hay which "would be a very good yield for the crop grown only occasionally in the ordinary course of agriculture." The average yield in the first 10 years was much greater than in the subsequent 30 years and averaged 95¼ cwt. and the maximum yield appears to have been about 148 cwt., or nearly seven and a half tons to the acre. In 1857, after the removal of the crops of the fourth year of the experiment, the surface soil nine inches deep contained four times as much nitrogen as the average of the Rothamsted arable soils to the same depth and nearly five times as much as the exhausted arable land where red clover had failed. The experiments on wheat with artificial manures are equally instructive.

TABLE IV.—*Showing the Yield of Wheat in Bushels per Acre*

Period.	Mixed mineral manure— Alone.	And NH₃ 86 lb. N.	And NH₃ 129 lb. N.	And NH₃ 172 lb. N for first 13 years (1852-64), *unmanured for last 19 years.*
	Plot 5	Plot 7	Plot 8	Plot 16
13 years 1852-64	18¾	37¼	33	39¼
19 years 1865-83	13¼	29¾	34¾	14¾

In the above experiments we find, no dung being used, that the yield is less in the second period than in the first, and that when the large amounts of artificial manure were withdrawn in Plot 16 the yield dropped almost at once. The authors say: "There is, in fact, abundant evidence to show that there is but little effective manure residue after the growth of a grain crop by the application of ammonium salts; and there is little doubt that the produce of one and a half bushels of grain and its straw per acre per annum more over the 19 years after the cessation of the application of ammonium salts than on Plot 5 with the mineral manure alone is, so far as it is to be attributed to residue, mainly due to the increased *crop residue*—stubble and roots accumulated during the 13 years of the application; and much the same may be said of the after-effects when grain crops have been grown with nitrate of soda." Again: "When organic matter, animal or vegetable, is applied to the soil as manure its complete decay and the complete liberation of its fertilising constituents extend over a considerable period of time. Poor land cannot be suddenly brought into *condition* by the consumption on the farm of purchased foods. Nor can condition—that is, accumulated fertility—be at once withdrawn by suddenly stopping the use of foods."

Food-supply.—Sir William Crookes, the President of the British Association, in his address (Bristol, 1898) drew attention to the fact that if population continued to increase we might expect to be short of wheat. Our remedy was to increase the fertility of the wheat-growing area of the world and, taking, as was perhaps but natural, a purely chemical view of fertility, he put forward the proposition that the productiveness of the soil might be expected to bear a direct ratio to the amount of fixed nitrogen which is applied to it and he found comfort in the fact that after the exhaustion of the nitre beds of Chili and the guano beds of Peru the chemist of the future would be able by the aid of electricity generated by Niagara and other natural forces to fix the atmospheric nitrogen for the benefit of the farmer. In the course of his address Sir William Crookes made allusion to the sewage question in the following words:

> "There is still another and invaluable source of fixed nitrogen. I mean the treasure locked up in the sewage and drainage of our towns. Individually the amount so lost is trifling, but multiply the loss by the number of inhabitants and we have the startling fact that in the United Kingdom we are content to hurry down our drains and watercourses into the sea fixed nitrogen to the amount of no less than £16,000,000 per annum. This unspeakable waste continues and no effective and universal method is yet contrived of converting sewage into corn. Of this barbaric waste of manurial constituents Liebig nearly half a century ago wrote in these prophetic words: 'Nothing will more certainly consummate the ruin of England than a scarcity of fertilisers—it means a scarcity of food. It is impossible that such a sinful violation of the divine laws of nature should for ever remain unpunished, and the time will probably come for England sooner than for any other country when, with all her wealth in gold, iron, and coal, she will be unable to buy one thousandth part of the food which she has during hundreds of years thrown recklessly away.' The more widely this wasteful system is extended, recklessly returning to the sea what we have taken from the land, the more surely and quickly will the finite stocks of nitrogen locked up in the soils of the world become exhausted. Let us remember that the plant creates nothing; there is nothing in bread which is not absorbed from the soil, and unless the abstracted nitrogen is returned to the soil its fertility must ultimately be exhausted."

Sir John Lawes and Sir Henry Gilbert in a communication addressed to the *Times* on Dec. 2nd, 1898, point out that even supposing that atmospheric nitrogen could be fixed at a remunerative price, the addition of nitrates without the addition of the other mineral constituents necessary for wheat growing would be of no permanent use; but they express the opinion that the stores of nitrogen and other fertilising salts existing in our own soils and the soils of foreign countries can be made available by thorough tillage and proper rotation of crops. The land wants labour and the production of wheat is likely to be proportionate to its market value. They point out that the average wheat production of the *unmanured* plot at Rothamsted (over 13 bushels) is greater than the average of the whole of the United States, a fact mainly due to proper tillage and thorough weeding.

It is tolerably evident that fertility is not merely a chemical question. The year 1898 was remarkable for a fine wheat crop in this country. The yield is said to have averaged 35 bushels instead of 28 or 29 bushels per acre. Sir John Lawes, in his annual letter to the *Times* (Oct. 22nd, 1898) on "The Wheat Crop of 1898" states that at Rothamsted the yield on the experimental plots was as under:—

TABLE V.—*Wheat Crop in 1898.*

—	Bushels per acre.	Cwts. of straw.
Plot 3, unmanured	12	12¼
Plot 9, nitrates	23¼	33¾
Plot 7, ammonia salts	28¾	44¾
„ 8, „ „	29¾	54¾
Plot 2, farmyard manure	38	65¾

In 1898 at Rothamsted the plot dressed with nitrate of soda yielded 23 bushels, as against 38 bushels on the farmyard plot, and in explanation Sir John Lawes says: "For only the second time during a period of more than 40 years the wheat plant was much injured where we have used the heaviest dressing of nitrate of soda for want of enough rain to form and distribute a sufficiently dilute solution of it; and a similar result occurred in the year of drought of 1893; whilst in this year, 1898, the barley plant was much injured with only half the amount of nitrate applied." Sir John Lawes also gives the average yield of these five plots for periods extending over 46 years.

TABLE VI.—*Wheat Crop, 1852-97.*

—	Unmanured.	Farmyard.	Ammonia salt.	Ammonia salt.	Nitrate of soda.
36 years 1852-87	13	33¼	32¾	36½	35¾
10 years 1888-97	12¼	40¾	34¼	37¼	33¾
46 years 1852-97	12⅝	35¼	33⅛	36¾	36⅛

From the above table it will be observed that not only has farmyard manure proved to be practically the equal of artificial manures for nearly half a century but that during the last ten years the yield from it has been considerably more than that of any of the artificially manured plots. It is interesting to observe, also, that had the wheat-growing area of this country in the year 1898 been sprinkled with nitrate of soda after the manner of Plot 9 at Rothamsted the yield might have averaged only 23 bushels instead of 35 bushels. On 2,000,000 acres, which is approximately the wheat area of the United Kingdom for 1898, this means a deficit of 24,000,000 bushels or 3,000,000 quarters. The chemical analysis of a soil often fails to give the clue to its fertility or sterility. Mr. Robert Elliot, in a paper on

"The Value of Plant-roots as Tillers of the Soil,"[4] quotes Sir John Lawes to the effect that "All our experiments tend to show that it is the physical condition of the soil, its capacity for absorbing and retaining water, its permeability to roots and its capacity for absorbing and radiating heat, that is of more importance than its, strictly speaking, chemical composition." It is, in fact, abundantly evident that the biological side of fertility is quite as important as the chemical and that organic manures are absolutely necessary to maintain the fertility of the soil, and that of all organic manure there is nothing to be compared with dung. If all that comes from the land be returned to it there can be no reason why the agriculturist should trouble himself with chemical theories. He has only by labour to maintain the soil in a good physical condition and he may rest assured that its fertility will increase.

SANITATION IN HOLLAND.

In Holland the connexion of *sanitation* with agriculture is far closer than with us and it is possible that we may derive some useful hints from our neighbours. In Holland the sanitary problems are of a formidable kind. The level of the country varies from a few feet above to a few feet below the mean level of the German Ocean, and it is needless here to recount how the Dutch people, marvellous for their shrewdness and untiring industry, have maintained a successful warfare against the forces of nature. With the exception of two or three inconsiderable areas the whole of the Kingdom of the Netherlands is a flat plain intersected at very frequent intervals by canals and rivers. These watercourses are all sluggish and in some of them the slow current is maintained artificially by pumping. It may be said that every Dutchman lives within a few yards of a watercourse of some kind, be it ditch or canal. These canals form a very cheap and admirable means of internal communication and in consequence the barge population is very large indeed. The population of Holland tends steadily to increase, such increase being most marked in the big towns.

In no country in Europe, probably, has the state of public health improved more remarkably than in Holland. This is well shown by the following table which is taken from the "Annuaire Statistique de la Ville d'Amsterdam," 1896. The decline of the death-rate has been uniform and continuous since 1884, but for the sake of conciseness the years 1877, 1880, and every fourth year thereafter alone have been given.

Nombre des décès (mort-nés exclus) par 100,000 habitants de la population moyenne dans les cinq grandes villes des Pays-Bas, années 1877-96.

Années.	Amsterdam.	Rotterdam.	s'Gravenhage.	Utrecht.	Groningen.	Les 5 villes.
1877	25,00	25,32	21,66	23,91	29,51	24,70
1880	27,00	24,65	23,38	27,10	24,39	25,74
1884	27,87	27,01	24,87	26,38	22,00	26,67
1888	21,82	21,26	20,11	22,56	20,04	21,38
1892	19,78	23,26	20,32	23,84	17,27	20,89
1896	17,77	18,27	16,27	19,04	16,01	17,65

The causes of this improvement in the death-rate are probably the same as have operated throughout Western Europe generally. These causes are: (1) the improvement in the physical and moral condition of the lower strata of society; (2) sanitation in its widest sense; (3) the rapid increase of population especially in the towns, causing a dilution of the high death-rates in the old crowded portions by the lower death-rates of new settlers in the outskirts; and (4) the decrease in the birth-rates. In Holland, as in England, the importance of pure water, especially for town populations, is abundantly recognised, and public supplies have within recent years been carefully protected from pollution and filtered before being distributed. The risk of drinking canal water must have been very great indeed. The mode of dealing with fæcal matters is necessarily different from ours. In Holland water-closets are the exception and not the rule and while the slop water of the houses is allowed to flow into the canals the fæces are collected and used for agricultural purposes. During a visit to Holland in September, 1898, I was able to obtain the Dutch death-returns for 1885-89 and for 1889-94, a period of 10 years in all. For this I have to thank Mr. Verryn Stuart, the secretary of the Statistical Commission at The Hague, who most courteously procured for me the volumes containing the returns in question.

The Netherlands.

Provinces.	1885—1890. Total deaths.	1885—1890. Deaths from typhoid and typhus fevers.	1885—1890. Proportion of typhoid and typhus fevers to total.	1890—1894. Total deaths.	1890—1894. Deaths from typhoid and typhus fevers.	1890—1894. Proportion of typhoid and typhus fevers to total.
North Brabant ...	60,436	245	1 in 247	62,808	257	1 in 244
Guelderland	53,706	313	1 ,, 171	55,713	308	1 ,, 181
South Holland ...	110,964	563	1 ,, 197	112,139	462	1 ,, 243
North Holland ...	90,959	621	1 ,, 146	89,494	713	1 ,, 125
Zealand	20,456	93	1 ,, 220	20,390	125	1 ,, 163
Utrecht	25,837	166	1 ,, 156	26,098	184	1 ,, 142
Friesland	31,851	263	1 ,, 121	30,893	227	1 ,, 137
Overyssel	33,765	280	1 ,, 120	34,145	238	1 ,, 143
Groningen	25,594	253	1 ,, 101	25,988	237	1 ,, 110
Drenthe	13,653	90	1 ,, 152	14,564	107	1 ,, 136
Limburg	26,352	100	1 ,, 263	28,701	125	1 ,, 229
Kingdom	493,573	2987	1 ,, 165	500,933	2983	1 ,, 168
1885-94						
Kingdom	994,506	5970	1 ,, 166	—	—	—

Taking the population for 1885-94 at 4,500,000 the average annual death-rate is 18·26 and the typhoid fever and typhus fever death-rate is 0·13 per 1000.

It will be observed that in Holland generally the death-rate from enteric fever compares favourably with our own. Knowing as we do the great risk of drinking sluggish water liable to fæcal contamination (which has been exemplified in the Tees valley) the low enteric death-rate in Holland is not a little remarkable. Enteric being a fever of slow and insidious onset it is impossible in sporadic cases to say where or how the patient may have been infected and in cities with an ever-shifting population this difficulty is accentuated. That being the case it will not be without interest if I give a few particulars concerning the provinces of Groningen and Friesland which I visited in the vacation of 1898. These two provinces are almost entirely devoted to dairy farming, the breeding of horses and cattle, and agriculture. The shifting and travelling population is a small one and it is here if anywhere that we may learn the effect of local habits and customs on the public health.

The town of Groningen with 63,863 inhabitants is in point of population the fifth town in Holland and a reference to the table will show that the improvement in its death-rate in the past 20 years has been as remarkable as that observed in the other Dutch cities or in any town or city in this country. In this town as also in Leeuwarden, the capital of Friesland, and in the great majority of Dutch towns the fæcal matter is collected in pails and it is probable that in the whole extent of the two northern provinces of Groningen and Friesland there is not a water-closet to be found. The whole of the fæcal matter is scrupulously and religiously collected and returned to the soil. Dutch cleanliness is proverbial and certainly I have never been in a town so exquisitely clean as is the town of Groningen. The accumulation of ordure in the streets and backyards is simply not tolerated and the inhabitants coöperate with the scavengers in clearing away all refuse as quickly as possible. The collection of fæcal matter is very simple. The closet-pails are much smaller than those which are commonly used in this country and they are emptied twice or thrice a week or daily if the householder is ready to pay a small fee. The collecting cart is really a tank upon wheels with a sort of hood projecting behind like the hood of a carriage facing the wrong way. The pails are brought out, and the man and pail are hidden by the hood as the contents are simply tipped into the tank. The pails even when full being such as one man can lift easily the collection is probably ten times as rapid as is the case in those English towns which make use of huge two-man pails which weigh 50 lb. and more when empty. Again it is obvious that the Groningen authorities do not make the mistake of hauling about an immense weight of pails which adds enormously to the expense. The depot where the material is collected is on the outskirts of the town where a wharf has been constructed with a view to its removal by barge for the purposes of the farmer. Here, again, the arrangements are very simple. The stuff is simply stacked beneath rough sheds covered with corrugated iron. The men employed have found out exactly how to do it and by arranging a layer of street sweepings and rubbish (dung, straw, paper, rags, &c.) with peat ashes (the fuel used in this district is almost exclusively peat) alternately with a layer of pail contents the whole mass drains and consolidates into a very rich black manure which the farmer highly appreciates. The floor of the depôt is concreted and provided with channels so that the urine drains away into a large tank whence it is pumped into barges for the use of the agriculturist. Considering the work which went on in it, this depôt was wonderfully neat, the stacks were as evenly made as the best hay stacks, and the paths between them were quite free from befoulments. The smell from the putrid draining was, to say the least, powerful but the solid stuff soon ceases to be very offensive. There were large numbers of flies in this depot but I frequently remarked that the flies in the town of Groningen were not nearly so troublesome as is the case in cities less carefully scavenged.

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[4] Journal of the Royal Agricultural Society, vol. viii., p. 469.

In the town of Leeuwarden the pails are taken to and from the depot but the pails are much smaller and lighter than those in use in England so that 54 of them (three tiers of 18 each) can be carried on a one-horse lorry. In the 10 years 1885-94 there were in each of the provinces of Groningen and Friesland 490 deaths from enteric fever and typhus fever, 980 deaths in all or an average of 98 per annum in a population of some 600,000, giving a rate for typhus fever and enteric fever of 0·16 per 1000. During the same period there were 97 deaths from the same cause in the town of Groningen and 27 in the town of Leeuwarden, or 124, giving a yearly average of 12·4. These figures are not large but they show that as regards these diseases the condition of Groningen was slightly worse than the town of Leeuwarden. As in England so in Holland, the death rate from enteric fever has been falling steadily and the returns for the last available year (1897) are very instructive. From these returns I find that in the province of Groningen with 296,521 inhabitants there were 23 deaths from enteric fever in 18 parishes, giving a death-rate of 0·03, and in the province of Friesland, with 339,425 inhabitants, there were 19 deaths from enteric fever in 12 different parishes, giving a death-rate of 0·056 per 1000. It is a remarkable and most interesting fact that in 1897 there was no death from enteric fever in either of the capital towns of Groningen or Leeuwarden, containing over 95,000 inhabitants (Groningen 63,663 and Leeuwarden 31,593).

The figures given above must be taken to show that in these two provinces there is no serious endemicity of enteric fever. When we consider that dairy farming is the staple industry of these provinces, that milk which is most sensitive to typhoid fever infection is everywhere abundant, and that human excreta containing a certain proportion of typhoid fever excreta are used, and have been used for ages, to manure this fertile district, which lies almost in the water, the comparative freedom from enteric fever seems remarkable and very full of instruction.

These facts seem to me to afford a very large measure of proof that there is no inherent danger in the methods of sanitation pursued in Groningen and Friesland and, in fact, in Holland generally. Dutchmen are eminently shrewd, thrifty, industrious, and methodical. The interiors of their dwelling-houses and cattle-houses are, as a rule, exquisitely clean and neat and on the farm one is constantly confronted with the same characteristics. In the agricultural districts nothing is ever thrown into the ditches or watercourses. On the contrary, everything is taken out of them that can be turned to profit. These ditches must be kept clean and the banks of them need constant attention. The banks are kept in repair largely by the mud which is removed from the ditch and whatever the ditch will grow in the shape of rush or weed or willow is all carefully harvested and turned to account for thatching or for litter or for basket work. The Dutch farmer never feels the effect of drought and this is one secret of his success. His endless watercourses serve for fences and afford a cheap and ready means of transport. They are a source of small profit in various ways and most certainly they are never allowed to carry away from the farm anything which possesses manurial value. The methods of the Dutch agriculturist are slow and sure and steady. He has had to contend with the forces of nature and has got the upper hand and is now ahead of the whole world in exacting labour and profit from wind and water.

The returns issued by the Board of Agriculture show that in 1896 we imported from Holland 923 horses, 663,196 cwt. of dead meat, over 500,000 cwt. of butter and cheese, 861,887 cwt. of margarine, 217,891 cwt. of milk and condensed milk, 375,116 bushels of fresh fruit (apples, pears, cherries, plums, &c.), and 1,581,386 bushels of onions. In addition we imported from Holland 509,710 cwt. of grain and 40,127 tons of hay and no mention is made of the horticultural products in the form of "Dutch bulbs," &c., which we import in enormous quantities.

In the United Kingdom of Great Britain and Ireland there are, including waste lands, 77,672,000 acres supporting a population of 40,000,000, and in Holland there are (excluding lakes and rivers) 7,786,000 acres supporting 4,894,000, so that Holland supports a bigger population per acre than the United Kingdom. In the United Kingdom the area under cultivation (crops and grass) amounted to 47,868,553 acres in 1897 and this figure appears to be slightly decreasing. In Holland in 1895 the total area under crops and grass was 5,149,817 acres, showing an increase of 95,000 acres in the preceding three years. In the United Kingdom there are 1·2 acres of cultivated land per head of the population and in Holland there are 1·05 acres of cultivated land per head of the population. Statistics prove that Holland is a most fertile and productive country, but one requires to travel through it in order to be fully impressed with the extraordinary amount of produce which the Dutchman exacts from the soil. In Groningen and Friesland one cannot but be struck with the well-to-do look of the population. If there be wretchedness and squalor it is not visible to the traveller and must be, in any case, relatively small in amount. The people are well nourished and well clothed, the towns are handsome and clean, and the shops are excellent. Perhaps no better evidence of the high-level of comfort which pertains in this purely agricultural country can be given than the fact (which I take from "Baedeker's Guide") that the town of Leeuwarden with 31,000 inhabitants supports 25 firms of jewellers and silversmiths who are mainly engaged in making personal and household ornaments for the farmers and their families. Let it not be supposed that the Dutchman owes his position of agricultural supremacy to the "natural" fertility of the soil of his country. Doubtless he has found a large amount of well-watered pasture land ready to hand, but it is undeniable that some of the very best of his land has been won from the sea, the desert moorland, and the bog, by indomitable pluck and perseverance. Above all, the Dutchman is fully impressed with the necessity of returning to the soil everything that comes out of it. Nobody knows better how to facilitate that circulation of organic matter which is a law of Nature and he sees that his profit depends upon the completeness and rapidity of that circulation and that in farming as in other businesses a rapid turnover of capital is to be aimed at. In Holland everything which has manurial value is religiously returned to the land and we find that the population is increasing as fast as ours and that the land under cultivation is increasing although the area of land is less per head in Holland than in the United Kingdom. The level of public health is as high in Holland as in the United Kingdom and an enormous amount of farm, garden, and dairy produce is exported to this country where (albeit that many a tract of bog and waste moorland is waiting for the subjugation of civilisation) the land under cultivation is tending to decrease, where manurial wealth is being recklessly burnt or turned into the sea, and where one-half of the population is absolutely ignorant of the uses and value of dung and the other half is, if not ignorant, too squeamish to use it.

It is very difficult to appraise the fertility of a district. The area of Friesland is given as 331,030 hectares, of which 206,718 are pasture and 47,317 are arable. These 254,035 hectares of land under cultivation are farmed by 14,049 farmers, of whom 5374 are freeholders. The average holding would thus appear to be 18 hectares or about 43 acres, and as one travels through the province the substantial farmhouses appear to be dotted over the country with something like mathematical precision and the cattle (of which there were 233,582 in the province in 1897) appear to be innumerable.

Groningen contains a considerable amount of waste land. The pastures are less extensive than in Friesland and there is a greater area under the plough. In 1897 I find that in Groningen 7351 hectares of wheat produced 35 hectolitres per hectare; 4702 hectares of barley produced 41 hectolitres per hectare; and 33,135 hectares of oats produced 57 hectolitres per hectare. These returns are large and are the equivalents of 40 bushels of wheat to the acre, 46 bushels of barley to the acre, and 65 bushels of oats to the acre. Agricultural returns for a single year are not, perhaps, of great value but these figures show at least that the land is capable of an enormous yield. The yield of oats especially appears to be very large.

The municipal accounts of the city of Groningen for the year 1897 show that the total cost of keeping the city clean was 94,596 florins (12 florins = £1). *The chief items of this expenditure were:—*

	Florins.		Florins.
Salaries and wages	50,615	Disinfectants	263
Horse hire	21,441	Sundries	4,177
Repairs to carts	4 507	Clearing snow	11,231
Boat hire .. .. - ..	1,500	Total	94,596
Brooms	812		

As a set-off against this expenditure the accounts show that the compost resulting from the stacking of ordure and refuse, which amounted to 1315 barge-loads, was sold for 58,075 florins, and the liquid manure which drained from the stacks and which is much valued by agriculturists was sold for 5339 florins. The total receipts from the sale of manure amounted, therefore, to 63,414 florins, which, [illegible] ducted from 94,596, gives *31,182 florins (say £2600)* as the net [illegible] cleaning Groningen. Taking the population of [illegible] cost of scavenging works out at something [illegible] head of the population. It will be noticed that of the total expenditure (exclusive of clearing snow) very nearly two-thirds go in wages, a great part of which is paid to the poorest class and must in some degree lessen the poor-rate. It appears that the permanent staff consists of 102 persons, of whom 56 with 28 horses and carts are engaged mainly in collecting ordure, and 20 people with 10 horses and carts in collecting ashes and refuse. For cleaning sewers, canals, gutters, and gratings 19 men are employed. The collection of ordure is done in the early morning before 10 A.M.

CARRINGTON MOSS.

This seems to be the place in which to allude to the spirited action of the city of Manchester which has reclaimed Carrington Moss and which is about to reclaim Chat Moss by fertilising the ground with the organic refuse of the city. The ground is a virgin peat which is admitted to be deadly to one at least of the supposed earth organisms. The experiment is a splendid one and will certainly be the precursor of similar action elsewhere. I have gathered some figures which may give an idea of the gigantic task with which the cleansing committee of the city have to grapple. From the report of the Cleansing Department of the city of Manchester for 1897 I find that 354,364 tons of refuse—very nearly 1000 tons a day—were disposed of. Stated in cartloads there were of street sweepings, 61,248; of "Bell dust," 9823; of rubbish, 97,658; and of night-soil, 240,781; total, 409,510. Of the material collected nearly one-third of the weight is lost by evaporation (in the preparation of concentrated manure), leakage, and drainage, and nearly 100,000 tons find their way to the rubbish tip, so that about 140,000 tons remain to be accounted for. Of this 49,342 tons were sent to Carrington Moss and over 57,000 tons were disposed of to farmers direct. Over 6000 tons of concentrated manure (made from 108,000 tons of "daysoil" or pail-closet contents) sold for more than £17,000. Nearly 19,000 tons were converted to mortar and were sold for £4500 and some 9000 tons of clinker were used for road-making. The net expenditure of the cleansing committee in 1897 amounted to £131,793 so that the 354,364 tons of refuse were dealt with at a cost of 7*s.* 5*d.* per ton. The total cost for the year of the Carrington estate (including rent and interest of capital) was £2482. The material sent to Carrington in 1897 consisted of 37,082 tons of nightsoil, 587 tons of sweepings and garbage, and 11,673 tons of cinders. The Carrington Moss estate, therefore, regarded merely as a dumping ground for garbage and refuse, must be a source of satisfaction to the Cleansing Department of the city of Manchester.

On August 11th, 1897, I visited Carrington Moss and had the advantage of being shown over it by Mr. McConnell, the bailiff. Carrington Moss was bought by the Manchester Corporation in 1886. It is 10 miles from the city, in close proximity to the famous Chat Moss from which it is separated by the Manchester Ship Canal which serves for the transit of material from Manchester. The estate, for which the corporation gave £38,000, has an extent of 1100 acres, of which 600 were wild moss commanding a rental of a shilling an acre for sporting rights. The corporation has spent £56,000 on light railways, roads, drainage, rolling-stock, buildings, &c., making the cost £94,000. (The outlay on the estate is given as £82,946 in the City Treasurer's Abstracts, 1897.) In the nine years 1889-97 491,686 tons of refuse material have been placed upon Carrington Moss, or very nearly 50 tons per acre per annum. The moss has been drained by a series of deep trenches with nearly vertical sides cut at regular intervals. The refuse as it arrives from Manchester is transmitted by means of a light railway to various part of the estate where for the most part it is placed in heaps and allowed to "ripen" before being placed upon the ground. These heaps soon cease to be in the least offensive. Nightsoil is frequently applied directly to the fields. At the time of my visit two barges estimated to contain 80 tons of refuse were unloading at the little wharf which has been especially constructed. The hay harvest was just over and the corn harvest was soon to commence. The crops one and all were in splendid condition. Oats, potatoes, carrots, wheat, and all the other usual farm crops appeared to be first-rate, quality excellent, quantity enormous. The roads were hard and firm having been brought to this condition by the application of clinker and other forms of hard material from the city. The farm is not quite a dead level but the inequalities of the surface are very slight so that from every point the spectator is able to survey an area of very considerable extent. Without previous knowledge there was nothing in the appearance of the farm (except the deep trenches) to indicate the character of the subsoil. All indications of bog had completely vanished. On reaching Mr. McConnell's house we walked out upon a pretty lawn surrounded by a flower-border brilliant with carnations and the ordinary garden plants. The lawn was firm and perfectly dry and I was not prepared for the demonstration which I was to have of the character of the subsoil. Taking an iron rod having a length of 11½ feet and a diameter of about half an inch Mr. McConnell with one hand drove it through the turf of his lawn completely up to the handle. I then did the same thing. As the rod passed through the first foot or so there was some resistance and a sense of grittiness was imparted to the hand, but this first obstruction passed the descent of the rod was progressively easier until it was finally stopped by the handle resting on the lawn. On withdrawing the rod the lower half was found to be wet while the upper part was dry. To the upper half clung a little grit and peaty earth, the lower half was clean but wet. It was then only that one recognised that this fertile paradise was literally floating.

Mr. McConnell informs me that Carrington Moss is everywhere about 12 feet in depth and that the variations in depth are very slight; whereas Chat Moss, although distant only a few miles, has a depth which varies from four to over 30 feet. On Chat Moss where the digging of drainage trenches was in progress I examined the peat which had been removed. These trenches are dug to a depth of about four feet to begin with. The peat near the surface had the ordinary fibrous character, whereas that from the bottom appeared to the naked eye to be smooth and structureless and saturated with moisture. It looked like brown jelly. The moss resembles a huge sponge. Mr. McConnell states that the surface of Carrington Moss is gradually sinking; that whereas when first he came to live on the estate he could, from a certain point see the spire only of a neighbouring church, he can now see the slates upon the roof. The sponge is being squeezed and drained, and rendered more compact. The half million tons of garbage which has been placed upon the surface must exercise considerable pressure and must serve to squeeze moisture into the deep trenches. Then, again, the upward drainage of the abundant crops is obviously very large indeed. The amount of moisture retained and evaporated by an acre of oats or mangel must be very great.

There are, as yet, not many trees upon the estate, but part of it, about 43 acres, is used as a nursery for the shrubs required for the parks and cemeteries of Manchester. These nurseries appeared to be most flourishing and contained a large variety of shrubs. The rhododendrons were extremely vigorous. Mr. McConnell assured me that the farm as a place of residence is by no means damp and that the rain which falls upon his lawn quickly drains away to the reservoir beneath and leaves the surface dry. He and his family and the employés on the farm have always enjoyed excellent health. There has been one case of enteric fever in nine years, the cause of which is doubtful.

Of the 1100 acres of land occupied, 372 acres are farmed by the committee, 639 acres are let to tenants, and the rest is occupied by roads, wharves, plantations, &c. The rental of the portion which is let amounts to £1516 19*s.*, or about £2 7*s.* 6*d.* per acre, while the rent of the amount retained by the corporation is put in the accounts as £933 (i.e, £2 10*s.* per acre for the 372 acres farmed, or just £2 if the roads, &c., be included). In the year 1897 on the 372 acres farmed by the corporation there were produced: clover and clover hay, 430 tons; carrots, 250 tons; oats, 5500 bushels; potatoes, 2500 loads; swedes, 90 tons; mangolds, 90 tons; and straw, 200 tons. The value of this produce would appear in the accounts for 1898. In the year ended March 31st, 1897, the value of the farm produce amounted to £3632 or about £9 15*s.* per acre while the net profit on the farm appears to have been £1041 or £2 16*s.* per acre. The amount paid in wages was £1520 and the rent, as stated, was £933. If we may assume, as we have every right to assume, that the land rented was as productive as the land retained by the corporation, then the value of the produce of the 1011 acres under cultivation would, at £9 15*s.* per acre, amount to £9864 and we then arrive at the conclusion that each of the 49,342 tons of refuse sent to Carrington Moss in 1897 produced almost exactly 4*s.* worth of food. But now that the Moss is entirely reclaimed it will not take more than 30 tons of stuff to the acre, or, say, 30,000 tons per annum. Thus by a well-considered expenditure Manchester has provided itself with (*quâ* refuse) a destructor capable of dealing with about 100 tons per diem for ever and in its formation this machine has absorbed nearly half a million tons of refuse of which the city had of necessity to be rid at all costs. When the loans necessary for the purchase and development of this estate have been paid off it is certain that Carrington Moss Farm will cost the Manchester ratepayer nothing and will probably yield a return in crops of about 6*s.* 8*d.* for every ton of refuse used. Land which produced nothing and which let for 1*s.* per acre has been made to yield nearly £10 worth of produce and an eventual rental of £2 10*s.* per acre. This is a grand result and one of which Manchester may well be proud.

I am well aware that in farming, where results depend so largely upon the weather, it is hazardous to calculate returns on the yield of a single year, and that anything under a 10 years' average is likely to mislead. On the other hand, £10 worth of produce from an acre of land is no excessive return. My visit to Carrington Moss left upon me the impression that much of the land is ready to pass, as some has already done, from the hands of the farmer to that of the market gardener. In that case, when oats, grass, and carrots and mangels give place to fruit and high-class vegetables, it is certain that, with a market like Manchester at its door, the money value of the crops in Carrington Moss may be doubled or quadrupled. There is probably no city in the world where excreta are dealt with by methods other than water-carriage on so large a scale as they are dealt with in Manchester. In 1897 the city had an area of 12,911 acres; it contained 534,299 inhabitants living in 105,728 dwelling-houses, or rather over five persons to a house. There were 76,913 pail-closets, presumably used by some 384,565 persons who provided 189.585 *tons* (nearly 425,000,000 lb.) of "pail contents." It would appear from the Cleansing Committee's accounts (p. 36) that at the Holt Town Works 108,394 tons of "day soil" were converted into 6304 tons of concentrated manure, and that for the production of this manure were used 4897 tons of coal and coke and 1674 tons of chemicals. Adding the weight of the chemicals to the weight of the "day soil" we arrive at the fact that 110,068 tons of raw material and chemicals were reduced to 6304 tons by the aid of 4897 tons of coal. Or we may say that 6571 tons of fuel and chemicals produced 6304 tons of manure from 108,394 tons of raw material. The amount of water and other volatile matter driven off amounted to to 103,764 tons. The price paid for chemicals (£5093) and fuel (£675) amounted to £5773 while the net profit on the sale of manure amounted to £2031 (p. 15).

It is instructive to compare the Holt Town Works concentrated manure accounts (p. 14 15) with the Carrington Moss Farm accounts (p. 28-31). At the former a turnover of £30,533 resulted in a profit of £2031, or rather more than 6½ per cent., while at the latter a turnover of £6202 resulted in a profit of £1041, or very nearly 17 per cent. Turning to the City Treasurer's Abstracts we find that whereas the Holt Town Works (p. 50), upon which the outlay has been £111,318, are now valued at £71,429, the Carrington Moss estate, upon which the outlay has been £82,946, is now valued at £118,617, so that while £39,889 of capital have been lost at Holt Town £35,671 have been made at Carrington.

CONCLUSIONS.

I have brought forward a considerable number of facts to prove that the dangers of applying dung to the soil are as nothing in comparison with the advantages—advantages which have been acknowledged from the dawn of historic time till now. It remains to say a few words on the financial side of the question. The great experiment at Manchester seems to prove conclusively that even in a huge city and with the heavy outlay which seems to be inseparable from all modern municipal undertakings a well-considered scheme of application of offal and ordure *in a dry state* to the soil is the most economic way of getting rid of it. I have shown how in Holland great cities may be kept spotlessly clean and in spite of obvious difficulties the public health be maintained by a well-devised system of scavenging. The cleanliness of Groningen is a thing which is scarcely realisable by one whose ideas of street sanitation are acquired in the West End of London, and the economy with which the scavenging is accomplished seems astounding to the London ratepayer. I have further shown that Holland with a smaller area of cultivated land in proportion to population than England is able to export to this country enormous quantities of farm and dairy produce and that while the English farmer can scarcely exist the Dutch agriculturist thrives and grows rich.

It will not be uninteresting, perhaps, if I give some of the financial results of my small experiment at Andover which is now in its fourteenth year of trial. In this experiment the ordure and house refuse of about 100 persons have been removed and applied *daily* for gardening purposes. The amount under the spade is now exactly one acre one rood and seven poles and I should like to say that the quantity of fæcal matter at the disposal of my gardener by no means satisfies him. I am also convinced that the garden might take with advantage at least double the quantity if not more. There is no evidence after a long experience that the soil is overdone. On the contrary, its "condition" has steadily improved. The produce of my garden has been sold on the principle of profit-sharing, so that the gardener is interested in extracting the greatest amount of produce from the soil. During the past year careful accounts have been kept, and I find that the produce fetched £71 19*s*. 6*d*., which works out to £56 per acre. Of this sum £41 12*s*. 7*d*. were received for fruit and £30 6*s*. 11*d*. for vegetables. Some of the chief items were as follow:—Apples and pears, £18 0*s*. 6*d*.; summer fruit, £17 1*s*. 11*d*.; peaches (out-door), £3 19*s*. 2*d*.; potatoes, £6 3*s*. 4*d*.; cabbage and cauliflower, £5 18*s*. 3*d*.; tomatoes (out-door), £2 3*s*. 0*d*.; asparagus, £2 1*s*. 1*d*.; and flowers, £2 2*s*. 5*d*. The method of agriculture which I pursue is well known, but this has caused no prejudice against the garden produce, which finds a very ready market.

Except in the vacation I certainly do not visit Andover more than once a month. My experience leads me to say that it is to me almost inconceivable that the daily scavenging of our towns should not yield enough profit to pay the wages. It is especially to be noticed that the yield of this garden has undergone steady increase and I have every hope that such increase will continue. But it would be a great mistake to suppose that an acre of ground cultivated and manured as my garden is is going to yield £50 worth of produce per annum at once. The test of true gardening is *increase*. With the lapse of years and without appreciable cost the increase of fruit trees is automatic and the yield of seeds is equally automatic and prodigious. My garden has gradually become fully furnished and to a large extent with its own offspring, and in that fact lies part of the secret of its increasing yield. What we see in the London parks in the summer is not "gardening" but a beautiful display, after the manner of the bouquetiste, of the results of gardening elsewhere. In the same way the filling of flower beds with a crowd of named and fashionable plants bought for the season is not gardening but a mere evidence of wealth. The real gardener in these cases is the nurseryman.

The gradual increase in the yield of a plot of land, at least for a very long series of years, is limited only by the amount of skill and tillage which it receives and the amount of dung which is available for it. All evidence goes to show that organic manure in the form of dung is absolutely necessary for the maintenance of the fertility of the soil. We are gradually becoming alive to the fact that fertility is a biological question rather than a chemical question. To imagine that chemicals can ever replace dung is a pure delusion from which we shall some day be aroused. The success or failure of agriculture is very largely a question of dung and it must be admitted that the dung prospects in this country are very bad indeed. Imported animal food yields very little dung for the land because it is mostly washed (ultimately) into the sea, while steam-engines and motor cars and bicycles must mean a diminution of horse dung. The sanitary pioneers of half a century ago thought that the huge expenses of modern sanitation would be compensated by the yield from sewage farms. That has proved to be a delusion. Sewage has proved to be merely the happy hunting ground of sanitary tradesmen who have fattened on the ratepayer. The century closes with the spectacle of a Royal Commission still discussing the best way of *destroying* the potentialities of life and prosperity.

In these lectures I have brought forward many facts to show that there is no proof of any danger arising from the use of dung for agricultural purposes, while it is undeniable that the practice of agriculture is pre-eminently healthy and invigorating. I have been unable to find any evidence that contagia spread in the soil. To live in filth and to inhale the products of putrefaction given off from privies or pails of fæces or sodden ground results in disease, but there is no evidence whatever that disease thus generated is able to spread through the soil and infect a neighbouring house or street. Looked at in another way we must admit that filth disease like many other forms of disease is proportionate to overcrowding. We may pave the backyard and provide it with a trapped gully (not always sweet) and we may wash the fæces into a ventilated sewer which then delivers part of its vapours near our bedroom windows. It is a difficult problem and there are *pros* and *cons*.

While we exult (not always reasonably) in our diminished death-rate, let us not forget the diminished birth-rate, the multiplication of asylums of various kinds, and the steady increase in the amount of help from public funds which is necessary to maintain the health and decency of the masses. The year just ended has been unsurpassed in the volume of trade and in the bounty of the harvest, but the infant mortality in our towns for the Michaelmas quarter was the highest on record. Yes; there are *pros* and *cons!* At present he who advocates any attempt to entice a fair proportion of the people "back to the land" is regarded as a Utopian dreamer. I feel convinced that the only chance of getting a living from agriculture lies in the due enrichment of the soil. There is no chance of this so long as the only form of sanitation which receives any official encouragement is one which involves a systematic starvation of the soil. One sometimes comes across statements which would lead one to suppose that cultivated land is a public danger—statements which are mere assertions. Some of our sanitarians careless of food-supply, are liable to be dominated by ideas and to fix their attention unduly upon one side of a question and upon one disease. The more enthusiastic of them, if they can secure a trifling dimination in the mortality of one disease, seem quite ready to "make a [illegible] and call it peace."

ABSTRACT OF

The Arris and Gale Lectures

ON

THE ANATOMY AND SURGERY OF THE PERITONEAL FOSSÆ.

Delivered before the Royal College of Surgeons of England on Feb. 27th and March 1st and 3rd, 1899,

By B. G. A. MOYNIHAN, M.B., M.S. Lond., F.R.C.S. Eng.,

ASSISTANT SURGEON TO THE LEEDS GENERAL INFIRMARY.

LECTURE III.[1]

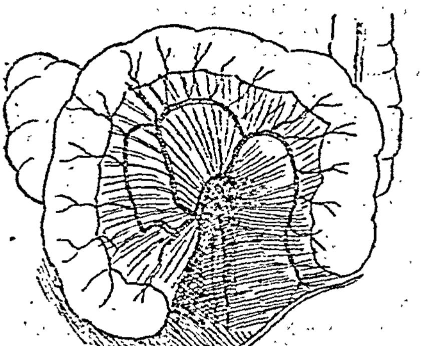
Delivered on March 3rd, 1899.

The Intersigmoid Fossa.

Mr. President and Gentlemen,—The first mention of the intersigmoid fossa is made by Hensing in the year 1742 in a Giessener dissertation. No subsequent reference to it is found until 1843. In this year Roser speaks of having seen the fossa very clearly defined on two occasions. In 1857 Engel describes a canal having a length of three centimetres in infants, extending along the inner border of the left psoas muscle to the level of the bifurcation of the aorta and in exceptional cases as far up as the pancreas. Treitz in 1857, Gruber in 1859, and Treves in his "Hunterian Lectures" give good descriptions of the fossa. The latter author says that "the perfect fossa was met with in 52 per cent. of all subjects. But if distinct funnel-shaped depressions be added to the examples of the true fossa then the percentage reaches 65." Jonnesco in 1890 and Brösike in 1892 give accurate accounts of the fossa.

On drawing the sigmoid or omega loop upwards the left or under layer of the sigmoid mesocolon is exposed. On this surface can be seen the entrance to the intersigmoid fossa at the line of insertion of the mesocolon (Fig. 8). The fossa is present in rather over 70 per cent. of bodies examined. Its frequency depends, however, chiefly upon the ages of the subjects. In the fœtus of later months and of infants it is invariable. Its frequency becomes less with increasing years. As Treitz showed many years ago, in the aged there are never lacking signs of adhesion, crimping, and thickening in the sigmoid mesocolon. Processes of this kind tend to obliterate the fossa, so that in subjects over 50 years of age the pouch is not infrequently wanting. The opening of the fossa is situated in the line of attachment of the sigmoid mesocolon *at a point which is near the inner margin of the psoas*. It lies over the common iliac artery close to, or in front of, its bifurcation. The orifice is generally round or oval and is bounded in front by a fairly well-defined sharp edge of peritoneum. In this edge, or very close to it, may be seen the sigmoid vessels. This orifice leads to the intersigmoid fossa which lies behind the sigmoid mesocolon and in front of the parietal peritoneum. The posterior wall of the fossa is adherent to the common iliac artery and through the transparent wall can be seen the ureter as it crosses the vessel. The apex of the fossa extends upwards for a distance that varies very considerably. Sometimes there is merely a dimple representing the fossa; in other cases the depth may be two or three inches or even more. I have on several occasions seen the fossa extend beyond the middle of the kidney and this is usually the case in the fœtus. Engel, Brösike, and Rogie describe the pouch as extending as far up as the body of the pancreas. Most frequently the fossa in the adult is of the shape and size of an abbreviated glove finger for an average middle finger.

Fig. 8.

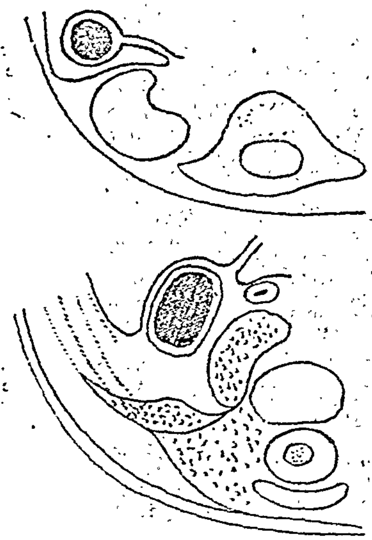


The intersigmoid fossa.

Genesis of the Fossa.

Several explanations have been suggested by Treitz, Luschka, Waldeyer, Treves, and others which I believe to be incorrect. It was first shown by Toldt that the disappearance of the mesentery of the descending colon was due to a process of "physiological adhesion" taking place between the left (or posterior) layer of the mesocolon and the parietal peritoneum (Fig. 9). This agglutination begins above close to the splenic flexure and spreads gradually downwards. Over the kidney, owing to the projection of this organ, the fusion is earlier and more complete. Along the inner edge of the kidney is a groove and here, therefore, the opposing surfaces do not so readily come into contact and adhesion is delayed. At the lower part of the groove union is never complete and the gap that results is the intersigmoid fossa. On examining a fœtus of the seventh month or a little younger the descending mesocolon is obliterated. On pulling, even gently, on the colon, however, it will be found to strip up quite readily from the parietal peritoneum until the primitive mesocolon is reproduced.

Fig. 9.



Formation of intersigmoid fossa.

Hernia into the Intersigmoid Fossa.

Treitz refers to two cases of intersigmoid hernia, one recorded by De Haen and the other by Lawrence. The description and figures given by De Haen negative his case unconditionally. Lawrence, in the fifth edition of his work, says that hernia may occur in the mesentery of the sigmoid, but gives no case. A case which has been generally accepted is recorded by Jomini. I have elsewhere[2] analysed this case which is probably one of gross congenital abnormality with secondary adhesion processes. It cannot be allowed as a hernia of this class. The only two authentic cases, so far as I am aware, are recorded—the first by Mr. F. S. Eve and the second by Mr. McAdam Eccles. Mr. Eve's case was described and figured in the *British Medical Journal* of June, 1885, and I must refer the reader to this article for full particulars. In that case the most likely explanation of the history seems to me to be this. There had been originally a common mesentery for the jejunum, ileum, cæcum, and ascending colon. The splenic flexure and the descending colon became fixed in the usual manner by adhesion of the left or posterior layer of the original descending mesocolon to the parietal peritoneum of the posterior abdominal wall. As a result of peritoneal adhesion, most probably pathological, the cæcum and ascending colon had adhered to the descending colon and the sigmoid and the united gut had been dragged over to the right, laying bare and rendering patent the orifice of the inter-sigmoid fossa.

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[1] Lectures I. and II. were published in The Lancet of March 4th, 1899.

[2] On Retro-peritoneal Hernia. London: Baillière, Tindall, and Cox. 1899.

Mr. McAdam Eccles's case occurred in 1895. I am indebted to him for a reprint of his account in the "St. Bartholomew's Hospital Reports." The symptoms were those of acute intestinal obstruction. On opening the abdomen "a tightly constricting edge which afterwards proved to be the margin of the aperture of the inter-sigmoid fossa" was revealed. A loop of gut four inches in length was nipped in the fossa and about half an inch of it was gangrenous. The loop was removed and the ends were stitched by Maunsell's method. The patient died from exhaustion. At the post-mortem examination there were signs of "some general peritonitis, most marked in the region of the sigmoid flexure, which was itself thrown over to the right side of the body."

These two cases illustrate as well as possible two quite opposite conditions. In the one there was congenital abnormality, gross in extent, and peritoneal adhesion, probably pathological and extra-uterine, and in the other a peritoneal cavity in all respects normal.

HERNIA INTO THE FORAMEN OF WINSLOW.

This form of hernia is very uncommon. I have been able to find only eight cases recorded, four very imperfectly by Rokitansky, Treitz, Moir, and Novello, and four more fully by Blandin, Majoli, Elliot-Square, and Treves. After reading carefully the reports of those cases it seems to me almost certain that in order to permit of the occurrence of this form of hernia there must be some extreme congenital abnormality. Thus in Treitz's case there was "a common mesentery for the intestine from the duodenum to the rectum." In the cases recorded by Elliot-Square and Treves there was an absence of the secondary fusion process between the ascending colon and the posterior abdominal wall. The causes leading to the formation of this form of hernia are probably: (1) a common mesentery for the whole intestine (Bogie has collected 53 examples of this and he has not included all the cases); (2) absence of the secondary fusion of the ascending colon to the posterior abdominal wall, (3) abnormally large size of the foramen of Winslow; and (4) abnormal length of mesentery and consequently undue mobility of the intestine. In the absence of one or other of these abnormalities the occurrence of the hernia may be considered almost a physical impossibility.

SYMPTOMS.

On analysing the series of cases it seems that a hernia into the foramen of Winslow on becoming strangulated presents a fairly well-defined group of symptoms. These are. 1. Pain. This is generally epigastric. Elliot-Square speaks of "pain over the ensiform cartilage and immediately below it"; Treves of "pain like cramp at and above the umbilicus"; and Majoli of "a painful rounded tumour" in the epigastrium. 2. Tumour. An epigastric tumour has usually been observed. Thus Majoli says that "a persistent bulging of the anterior abdominal wall in the epigastric region" was present. Treves speaks of "a conspicuous bulging of the anterior abdominal wall in the epigastric and hypochondriac regions." Elliot-Square says that "the umbilicus was somewhat prominent." 3. Percussion. A tumour when present is dull on light percussion, but deep percussion sounds a more resonant note. It is interesting to note that there are no recorded symptoms of pressure on the hepatic artery, portal vein, or bile duct.

X RAYS: IMPROVEMENTS IN APPARATUS.

BY JOHN MACINTYRE, M.B. GLASG., F.R.S. EDIN.

WORKERS in the x ray department have long felt that improvement in the interrupters of coils was necessary before any great advance could be made. That many have attempted this is known, but it will surprise some to learn that the well-known firm of Apps have designed and constructed some hundreds of different forms on their own behalf and that of others. In a paper published by me in the *Archives of Roentgen Rays* attention was drawn to the more important forms and the principles involved, but I concluded by stating that a perfect interrupter had not yet been made. It is with great pleasure therefore that I call the attention of the readers of THE LANCET to an important discovery described by Dr. Wehnelt of Charlottenburg in the *Elektrotechnische Zeitschrift* of Jan. 22nd, 1899, and add that English readers are indebted to the editors of the *Electrical Review* of Feb. 17th of this year for an excellent article on the subject. The principle involved is described as follows: "If a current be sent by means of two electrodes of unequal surface through an electrolyte, the electromotive force applied being considerably greater than the counter electro-motive force of polarisation, well-known light and heat phenomena may be observed on the electrode with the smaller surface. The latter is called the active electrode." Planté and others have observed and worked at this subject long ago, but Dr. Wehnelt has investigated the question as to whether there is a complete interruption or merely a reduction of the intensity. His conclusions have led him to utilise this chemical interrupter with marvellous results. From the description given I have had an instrument constructed. It consists simply of a glass beaker six inches high and four in diameter containing diluted sulphuric acid 25° B. In this is placed a sheet of lead measuring six inches by four inches. The other electrode is simply a thin piece of platinum wire measuring a few millimetres in length fused into the bottom of a glass tube. This tube can be filled with mercury to make contact, or a piece of copper wire may be attached to the end of the platinum which projects into the test tube. The object of the tube is to sink the platinum sufficiently into the fluid to prevent spluttering. I have used the current from the mains with the 100 volt circuit and the current from the positive wire goes to the platinum electrode. The moment the current is turned on it is noted that the meter registers something between five and 10 ampères when using an 18 inch Newton's coil; also that an arc of a most extraordinary description passes between the discharge rods of the coil, and that this arc seems to be composed of a torrent of sparks practically continuous although the length is diminished about from 10 to 12 per cent. The noise made is quite unlike that of any other interrupter and indicates a very high frequency. It is said in some instances to amount to 1500 per second.

It is premature to speak of the modifications, but it is quite evident that we are able by this extraordinary interrupter to vary the frequency of the break, and it may be noted in passing that as the break increases the voltage increases, hence the coil is protected. The amount of the current can also be varied by differing the proportions of the size between the platinum and lead electrodes.[1] One of the great difficulties in working coils in the past has been to obtain sufficient frequency to give a continuous light on the screen and rapid exposures, as it was found that when the interruptions passed from 1500 to 2000 per minute fluorescence could no longer be obtained. With the new arrangement, however, flickering on the screen is entirely done away with and certainly the results obtained in this direction by me have been as good as those previously seen with the Wimshurst machine. Not the least important advantage obtained is cheapness, and from what I have already seen I should say that we are nearer the complete utilisation of the induction coil than at any previous date. It would appear that smaller coils will now be capable of demonstrating and photographing structures hitherto beyond their range. It may be added that the difficulty of moving parts employed in many other interrupters has been entirely removed. Further it may be subsided and the pains "all over the body" were somewhat relieved; but there was constipation (for which some simple saline aperient was given), complete loss of appetite, flatulence, and a bad taste in the mouth. On the 26th the temperature was very slightly subnormal and the pulse was 48; the gastric symptoms were as well marked as on the previous day. As the patient was subject to repeated attacks of double otorrhœa and as a severe headache had recurred I thought for the moment that some meningeal mischief might be impending, but the absence of other more pronounced signs and symptoms soon dispelled my apprehension and made me inclined to think that jaundice might develop, the more so since the skin and conjunctivæ showed a slight yellowish tint, but the tests for biliary pigment in the urine gave a negative result. I discontinued the cachets and prescribed small doses of quinine in an acid vehicle. The condition remained much the same for the next two days, but on the 29th the patient felt so well that he got up in opposition to my advice. This was followed by a further decline in the pulse-rate from 45 to 40. I sent him back to bed, but it was not until after the lapse of five days that the pulse rallied though stimulants had been freely given. There was a feeling of profound prostration which did not subside until the pulse was 56 or 58. The patient was kept in bed till Feb. 5th and he has recovered since though there is still some general weakness left.

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[1] So complete is the break that the condenser is rendered superfluous.

CASE 2.—The patient was a woman, aged 27 years, who had never been ill before. On Jan. 28th she fell ill with shivering, violent vomiting, headache, pains in the back and limbs, and pains in the stomach, soon followed by severe diarrhœa. The temperature was 97·4° F. and the pulse was 56. On the 29th the prostration was so well marked that she fainted when sitting up in bed. The temperature was 98° and the pulse was 48. On the morning of the 30th her condition was the same, but there were now constipation, flatulence, furred tongue, a very bad taste in the mouth, and pains behind the eyes. Under the free use of stimulants she made a rapid recovery so that she was able to leave her bed on Feb. 3rd. The pulse showed a marked reaction, 82 being counted at the wrist.

CASE 3.—The patient was a woman, aged 48 years, who, though subject to gout, was otherwise healthy. She first sent for me on Jan. 31st when I found her very prostrate, with pains all over the body, anorexia, a furred tongue, dry lips, constipation, flatulence, and cough. The temperature was 99° F. and the pulse was 80. On Feb. 1st, the bowels having been relieved, she felt somewhat better though she was extremely weak. The heart was beating at the rate of 60 per minute and the temperature was 97°. During the following days the pulse rate was gradually reduced to 45, while the temperature was subnormal, varying between 96° and 97·2°. Champagne was ordered in large doses and brandy was given at regular intervals. On the 5th the pulse showed some improvement and on the 8th the patient was able to leave her bed, the pulse-rate being 68 and only some weakness remaining.

I may add that in these three cases, as well as in several others in which there was marked bradycardia, though not so extreme as in those described, all the organs were healthy and there was not the least sign of heart disease. In my experience the pulsus rarus is most pronounced in those cases where there is influenza of the gastro-intestinal type. Of course, bradycardia is frequently observed in states of exhaustion, particularly during convalescence from acute fevers. But in influenza bradycardia is not only met with during convalescence from a severe attack but as an essential sign on the height of the paroxysm. It is usually accompanied by a subnormal temperature, though there is no necessary relation between the range of temperature and the pulse-rate. But in the absence of all other signs there is very marked prostration inversely proportionate to the frequency of the heart-beats. I do not think that the slowing of the pulse is the outcome of the general weakness or *vice versâ*, but that both bradycardia and constitutional exhaustion are the result of the same cause—the poisoning of the system with the products of influenza or of the influenza germs, for I have not the least doubt that the pulsus rarus is due to the immediate action on the pneumogastric nerve or on the ganglia of the heart by the influenza toxins and bearing this in mind it is imperative to keep the patient in the recumbent position, though all other indications of the disease have disappeared, until the pulse has rallied in order to give the heart the highest possible degree of physiological rest.

Swiss Cottage, N.W.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. MARYLEBONE INFIRMARY, NOTTING-HILL, W.

TWO CASES OF IDIOPATHIC DILATATION OF THE COLON.

(Under the care of Mr. JOHN R. LUNN.)

THAT there are cases in which portions of the large intestine are found enormously distended and yet no source of obstruction is discoverable is now generally admitted, but the true cause of this curious condition is doubtful. It is often attributed to chronic constipation which is always found in these cases, but the constipation is in all probability the result and not the cause of the dilatation. The nervous theory is the most inviting. One curious point is that the dilatation is sometimes limited to a part of the colon and does not involve the whole of the large intestine. The fact that the muscular walls are in some cases at least distinctly hypertrophied indicates that there has been increased pressure in the bowel, but the true significance of this fact is not clear. For the notes of the cases we are indebted to Dr. H. Sinigar, assistant medical officer.

CASE 1.—A woman, aged 86 years, was admitted into St. Marylebone Infirmary in October, 1897, for bronchitis, but she was found to be also suffering from marked abdominal distension. She was a well-nourished woman who, owing partly to the bronchitis and partly to the abdominal distension, had to be propped up in bed. She gave a history of simple constipation with no attacks of diarrhœa and no loss of blood from the bowel. There was enormous distension of the abdomen which was tympanitic all over and not tender. Peristaltic action of distended coils of gut could be distinctly seen through the abdominal walls; no tumour was felt in the abdomen. Rectal examination revealed ballooning of the rectum, absence of rectal stricture or growth, and the presence of an enlarged, hard, and globular uterus of about the size of a fist. She had considerable bronchitis, the heart's apex beat was displaced outwards, and there was an apical systolic murmur. The liver and spleen were not enlarged. The constipation was successfully treated by enemata and castor oil. Charcoal was given by the mouth with the view of lessening the distension, but without any beneficial effect. She remained in the same condition for some months, complaining at times of abdominal pain which always appeared to be due to a temporary increase of the distension. She died from bronchitis and heart failure in March, 1898.

Necropsy.—On opening the abdomen at the post-mortem examination the distended coils were seen to consist of large intestine only, the small gut lying hidden behind. The distension began at the cæcum and included the whole length of the colon and rectum. The transverse colon was much increased in length and was tortuous. No growth, stricture, or compression of any part of the intestinal tract could be discovered. The mucous membrane appeared to the naked eye to be normal everywhere and the muscular coats were only slightly thickened. There were no scybala in the colon or rectum nor was there any evidence in the gut of previous fæcal impaction. The circumference of the distended colon was about 15 inches. The uterus was retroverted and contained a calcified fibroid, but this was not so large as to fill up the pelvis. There were no marked changes in the other viscera.

CASE 2.—A woman, aged 66 years, was admitted into St. Marylebone Infirmary for obstruction of the bowels on Oct. 11th, 1898. She was very emaciated, with an anxious expression, sunken eyes, dirty complexion, and sordes on the lips and tongue. The history obtained from her husband was that she had been fairly healthy until six years before admission. Then she began to be troubled with flatulence and obstinate constipation She had for many years been in the habit of taking aperients regularly She had been gradually losing flesh for five years, during which time the abdomen became more and more distended She had never passed any blood from the bowel Vomiting began a fortnight before admission On admission the abdomen was greatly distended and tympanitic all over, no tumour was felt She vomited frequently, the vomit consisting of an offensive dark brown fluid The rectum was ballooned and was full of soft semi liquid fæces, no stricture or growth was discovered There had been no action of the bowels for a week, so a large enema was given at once, but was retained Another enema which was given a few hours later was also retained Vomiting continued and soon became feculent, her general condition at the same time getting steadily worse As soon as the patient's friends could be seen it was decided to open the colon for drainage purposes The operation was begun 36 hours after admission and as the patient was very feeble it was performed on the bed A 5 per cent solution of eucaine was injected and a small incision was made in the left iliac fossa Large intestine at once presented in the wound, but owing to the enormous distension no attempt was made to pull out a loop of gut and thus the actual condition found post mortem was not realised at the time of the operation The presenting gut was stitched to the abdominal wound and opened four hours later Large quantities of flatus escaped and the abdomen soon became flaccid, but very little fæcal matter was discharged There was no shock from the operation, the patient died 26 hours later

Necropsy—At the post mortem examination a most remarkable condition presented itself on opening the abdomen Rising up from the pelvis for 13 inches above the symphysis pubis was a greatly dilated rectum which occupied the whole of the front of the abdomen The only other part of bowel visible was the sigmoid flexure which had been opened at the operation The rest of the large intestine and the whole of the small intestine were hidden behind the dilated rectum The first part of the sigmoid flexure was only moderately distended and the lower part was both distended and lengthened, from the brim of the pelvis it turned sharply upwards and passing in front of the descending colon it reached as high as the splenic flexure of the colon, then it was again turned sharply on itself and at that level became continuous with the rectum The gradual broadening of the longitudinal muscular bands of the sigmoid flexure until they formed a complete coat of longitudinal muscular fibres in the rectum was remarkably well seen, at the lowest part of the sigmoid flexure these bands attained a width of one and a half inches, and even then were quite distinct from each other The arrangement of the longitudinal muscular fibres as a complete outer covering, and not as three separate bands, showed that the dilated gut was rectum and not sigmoid flexure Although quite flaccid the circumference of the rectum at the level of the umbilicus was 26 inches Its muscular walls were hypertrophied the longitudinal fibres on the anterior surface were especially well marked The rectum contained a very large quantity of semi liquid fæces and appeared to be capable of holding as much as a domestic bucket No scybala were present The mucous coat was somewhat thickened, there was no ulceration of its surface

Remarks by Dr SINCLAIR—These two cases are examples of so-called idiopathic dilatation of the colon occurring as Treves[1] points out independently of mechanical obstruction in adults, thus differing from dilatation of the colon in children which he believes to be due to some congenital defect in the lower gut As regards the causation of this rare condition Hale White[2] points out that chronic constipation is probably not in itself a sufficient explanation, if it were so one would expect to find the condition more commonly in women, whereas 11 out of 12 cases reported have occurred in men He is inclined to regard the condition as analogous to non obstructive dilatation of the stomach Case 2 reported above certainly seems to me to support his view In this case the dilated rectum descended practically in a straight line from the diaphragm to the anus and kinking of the sigmoid or rectum which was suggested as a cause in some of the published cases, could not possibly have occurred as the rectum almost entirely filled the abdomen It is, of course, possible that excessive action of the sphincter may have caused difficulty in the expulsion of the rectal contents, but it is worthy of note that in neither case did the examining finger meet with any resistance at the anus Then, again, the descending colon was of normal calibre and the transverse and ascending colon were actually rather less than the normal size—a fact difficult to understand if the kinking view be accepted The analogy to dilatation of the stomach is further strengthened by the marked impairment of the absorptive power of the colon, as in both cases the fæces were semi liquid. On the whole it seems to me that some anomaly of the innervation of the affected gut is a not unreasonable explanation of the condition In Case 1 the chief trouble was bronchitic and as an action of the bowels could always be caused by enemata or aperients and as the case was diagnosed as one of idiopathic dilatation of the colon it was not considered advisable to resort to any operative measures Case 2 presented an entirely different clinical picture The symptoms were obstructive and urgent and were regarded as due to malignant disease Colotomy, however, gave no relief since the opening in the bowel was entirely above the collection of fæces in the rectum. The great capacity of the rectum easily explained the inefficacy of the enemata I am indebted to Mr Lunn, medical superintendent of the infirmary, for permission to publish these cases

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Discussion on "Pseudo Tuberculosis"

A MEETING of this society was held on March 7th, the President, Dr PAYNE, being in the chair

Professor JOHN MCFADYEAN, in continuing the discussion on Pseudo Tuberculosis, agreed with speakers on the previous occasion who considered the term "pseudo tuberculosis' unscientific and open to objection But it was often extremely difficult to say positively if a lesion were true tubercle as there were no macroscopical or microscopical characteristics which were absolutely distinctive and there were fallacies even in the bacteriological examination owing to some bacilli having similar staining reactions In practice, however, a trained inspector, who had special experience of the appearance of tuberculous lesions in any particular species was very likely to be wrong in basing his diagnosis on the naked eye appearances and general characteristics, less likely if he employed histological and bacteriological methods of investigation, as it was often extremely difficult to demonstrate the presence of the tubercle bacillus in an undoubtedly tuberculous specimen and to discriminate it from other bacilli As an example, he had met with a bacillus in milk which stained exactly like the tubercle bacillus but which was distinguished from it by its morphological characters There were many true tuberculous lesions which were difficult to recognise, of which illustrations were shown on the screen with the lantern The first was a specimen of villous like projection over the peritoneal surface of the liver which contained capillaries and giant cells at the periphery The second was a specimen of tuberculous mastitis in the cow where the appearances were those of a diffuse cirrhosis of the gland There were also many conditions to which the term "pseudo tuberculosis' had been applied of which he showed the following specimens 1 Small pin head shotty nodules occurring in the lung of the sheep, in which the microscope showed the presence of an undetermined worm in the centre surrounded by leucocytes and these by giant cells The resemblance to tubercle was increased by the tendency to softening of the centre 2 Grey patches from the lungs of the sheep, a scraping from which showed abundance of embryo worms and ova 3 The so called 'scrofula' of sheep which affected the glands of the head and face which formed abscesses The septum nasi was covered with nodules which had the same structure as tubercles but contained a different bacillus which could be cultivated Neither the culture, however, nor the pus itself gave rise to similar lesions if inoculated 4 "Bacterial necrosis in the liver determined by the special "necrosis bacillus." The necrotic area was subsequently invaded by leucocytes and the true nature of the lesions was often very obscure. 5. A nodule in the lung of the horse due to the growth of a mycelium.

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[1] THE LANCET Jan 29th 1898, p 276

[2] Clifford Allbutt's System of Medicine, vol iii where a complete bibliography may be found

Mr. **ALEXANDER FOULERTON** said that it was a fallacy to suppose that there was anything truly characteristic about the tubercle follicle and he believed that a similar lesion might result from the action of many different bacilli on the tissues. He thought that each tubercle should be distinguished by the name of the bacillus by which it was produced and not as true and false. An abscess might be produced by many organisms, yet they did not speak of an abscess due to one particular organism as true and of those produced by others as pseudo-abscesses. The diagnosis of phthisis was usually made in the post-mortem room on the strength of the naked-eye characters, but bacteriological confirmation was necessary before such cases could be labeled as tuberculous. It had been shown, especially in France, that there were a few cases which, clinically indistinguishable from phthisis and having the same morbid appearances, were in reality due to the presence of an aspergillus, and cultures of this aspergillus inoculated into a rabbit gave rise to lesions exactly similar to those produced by a culture of the tubercle bacillus. The smegma bacillus could be distinguished from the tubercle bacillus by contrast, staining in a concentrated alcoholic solution of methyl violet. There were sometimes bacilli in milk, as Professor McFadyean had said, which could not be decolourised and they would have to be distinguished by culture and inoculation. Mr. Foulerton brought forward specimens showing general infection in the guinea-pig by cultures of pathogenic yeasts, the resulting lesions microscopically and macroscopically resembling tubercles. Mr. Foulerton proposed the appointment of a committee to devise some nomenclature for the forms of granulomata which had been included under the term "pseudo-tuberculosis" and the society appointed the President, Professor McFadyean, Professor Woodhead, Mr. Shattock, and Mr. Foulerton to act on the committee.

Mr. **W. O. O. PAKES** referred to aspergillosis as one of the forms of disease to which the term "pseudo-tuberculosis" had been applied. He observed that the presence of moulds in sputum from cases of supposed phthisis was not very rare and it occurred in some in which the tubercle bacillus could not be found, and some of these might be really cases of aspergillosis and not of tuberculous phthisis. He thought that this might be an explanation of certain cases which cleared up very quickly.

Dr. **LAZARUS-BARLOW** was not sure whether the term "pseudo-tuberculosis" should be altogether dropped. It was useful as showing the close resemblance to tubercle and could be used just as the term "counterfeit sovereign" was used. The lesion might be (*a*) anatomically (*b*) clinically (*c*) bacteriologically indistinguishable. For example, the condition of the lung which often proved fatal in diabetic patients closely resembled tuberculosis, but in many instances the tubercle bacillus could not be demonstrated and in these the term "pseudo-tuberculosis" was convenient. Dr. Lazarus-Barlow pointed out that it was often very easy to miss the tubercle bacillus and to attribute causation to other factors unless very laborious investigations were made and mentioned a case in which he made a necropsy. The appearances were those of caseous pneumonia, apparently tuberculous, but on microscopic examination he found that there was a mycelium spreading through the tissue which must have been present at the time of death, as the specimen had been kept in strong spirit. No tubercle bacilli were present in the specimens first examined but he continued his search for them and it was not until he had mounted the forty-ninth that he discovered the presence of the tubercle bacillus.

Dr. **F. J. WETHERED** said that in 1891 he had the opportunity of investigating "pseudo-tuberculosis," the material being obtained from two cultures of the bacillus which had been sent from Paris. At first there was some difficulty in obtaining pure cultures, but this was eventually accomplished by means of plate cultures. The characteristics of the bacilli and colonies were the same as those already described by Dr. Sims Woodhead. The guinea-pigs inoculated died between the ninth and twelfth day. In every case an abscess formed at the site of inoculation. Those inoculated from pure cultures showed small white nodules scattered through all the organs which on naked-eye and microscopic examination simulated the appearances seen in miliary tuberculosis. In one animal there was no enlargement of the glands, but in others this condition was well marked. Unless microscopic and bacteriological examination had been made the conclusion would have been that the animals died from miliary tuberculosis and if it were a common disease errors might very easily be made during investigations in which guinea-pigs or other animals were employed.

Dr. **WOODS HUTCHINSON** agreed that the word "pseudo-tuberculosis" was in the scientific sense an absurdity, but it was difficult to get any practical substitute. The discussion had shown that observers agreed that there was an enormous preponderance of the true form and that the doubtful cases were few. But the term had the great convenience that it did not commit the observer prematurely to a statement of what the cause of the lesions was. Much inconvenience had resulted from the hasty adoption of terms expressing supposed causation, since the terms persisted when their significance was proved to be erroneous, as in the case of the term "uræmia," and although the term "pseudo-tuberculosis" was scientifically indefensible it had the advantage of not expressing anything very definite and from its clinical convenience he thought that it would last.

The **PRESIDENT** said that the lesions which had been under discussion appeared to have only one common feature—viz., that they imposed on observers as being tubercle, and the observer, feeling proud of his own acuteness in escaping from the error, gave them a name which drew attention to his acuteness. But the term was one which need no longer be kept up. He agreed with Mr. Foulerton that a variety of micro-organisms would produce a structure exactly like the tubercle follicle, but he would go farther and say that any irritant would do it provided it was sufficiently small in amount and local in its action. Theoretically, for example, a sufficiently small drop of acid would produce similar follicles, and in practice, in the affection known as ophthalmia nodosa, in which such follicles developed on the sclerotic or conjunctiva, the irritant had been shown by Mr. Lawford to be the hairs of a caterpillar in one case and by Baumgarten to have been due to the hairs of a mouse in another. In these cases the irritant had no power of reproducing itself, but with any irritant capable of reproduction lesions closely resembling miliary tuberculosis were possible. With reference to the occurrence of appearances resembling tubercle the President mentioned specimens which he figured in the Transactions of the Society for 1870 in which an immense number of minute nodules having a fibrous structure were found scattered over the peritoneum and scattered over the liver.

Professor **WOODHEAD** replied.

The following card specimens were exhibited:—

Mr. **FOULERTON**: Myoma of the Œsophagus.

Dr. **LAZARUS-BARLOW**: Aneurysm of the Splenic Artery and Traumatic Rupture of the Trachea.

Professor **JOHN MCFADYEAN**: Congenital Tuberculosis in the Calf.

Dr. **ROLLESTON**: Aneurysm of the Splenic Artery, Myoma of the Œsophagus, Myxoma of the Thigh weighing 10 lb., and Gastric Ulcer (albuminuric) in Granular Kidney.

OBSTETRICAL SOCIETY OF LONDON.

President's Address.—Primary Carcinoma of the Fallopian Tube.—Exhibition of Specimens.

A MEETING of this society was held on March 1st, Mr. **ALBAN DORAN**, President, being in the chair.

The **PRESIDENT** began the Inaugural Address by showing how the Obstetrical Society of London had from its earliest days taken the deepest interest in gynæcology, now a well-established speciality which had rendered important services to general surgery. Uterine therapeutics and minor gynæcology were associated with abuses, but so were medicine and surgery. They were indispensable and must be well understood because, as in the case of the abscess knife and the catheter, "minor" proceedings with the curette, the sound, and other special instruments were liable to cause grave damage if unskilfully performed. The President specially dwelt on the judgment of gynæcological surgery on general surgical grounds and insisted that good operating was not always good surgery. Plastic surgery had made great advances since 1859. Vaginal hysterectomy for cancer seemed to be good surgery as compared with the cancer practice of the general surgeon. Ovariotomy proved the key to modern peritoneal surgery. Drainage and flushing of the peritoneum were intimately associated with it, the latter in turn was closely related to transfusion as now understood. In operations for diseases of the appendages due to inflammation a skilful and successful operation might be decidedly bad surgery, or else questionable surgery, or else very good surgery. Exploratory incision was often needed in chronic cases; sometimes it was sufficient to liberate the ovaries and tubes from the painful bondage of adhesions, sometimes only one tube and ovary needed ablation. On the other hand, bilateral suppuration of obstructed tubes of course demanded removal of both. Bad after-results chiefly arose from the pedicle, the tissues of which were often unhealthy, and not from the uterus. In reporting a series of the sccases a long after-history was needed. Foreign authorities were very careless about this matter, thus one operator publishes tables where eight operations were performed within six weeks of the reading of the paper. They seem also far too ready to remove the uterus with the diseased appendages. One operator living in a relatively small capital has performed this operation over 500 times in a very few years; his mortality was low but no reliable after-histories were given. Recovery in this class of operation was for obvious reasons no proof that the removal of the parts was necessary, whilst in bad cases where the operation was good surgery the results were not always entirely satisfactory. The removal of ovaries for neuroses was almost universally condemned. Weir Mitchell had categorically declared that the whole principle of such a proceeding was wrong. The surgery of uterine fibroids had greatly progressed, but much more had to be learnt. Fibroids of the broad ligament needed early removal, so did uterine fibroid in a very young subject or in a case near the menopause where there was rapid increase of growth and manifest softening. When in doubt the surgeon should always wait; bleeding and slowly-growing fibroids allowed of watching and palliatives. Speculative operations where the fibroid was small and caused neither severe hæmorrhage nor pressure symptoms were not good surgery. In the field of uterine displacements there were many abuses. A long series of operations had been devised to fix the uterus up in its right place or to support it from below. The variations in opinion and practice showed that much remained to be settled. The President thought that even the pathology of displacements was yet obscure, nor did certain operations overcome the essential morbid condition associated with a flexion or version. Hysteropexy in well-selected cases was beneficial, but as in operations for chronic disease of the appendages long after-histories were needed but were not always furnished in papers written by operators. Surgery must respectfully follow clinical exploration, otherwise not only the surgeon's knife but his power of diagnosis would be blunted by too many exploratory incisions. Patient clinical research was the sheet-anchor of the gynæcological surgeon and surgical proceedings were only justified when clinical research had proved that there was something which ought to be removed or rectified by an operation.

Mr. HUBERT ROBERTS read a paper on a Second Case of Primary Carcinoma of the Fallopian Tube. The case occurred in a married woman, aged 60 years, who had never been pregnant. There was no history of pelvic trouble. The menopause occurred at the age of 50 years. She was perfectly well up to June 27th, 1897, when she first noticed a cherry-coloured watery discharge which lasted three days. Nothing was noted on vaginal examination. On July 3rd, 1897, the discharge recurred and was more profuse but of the same character, lasting two days. In September, 1897, there was very severe abdominal pain followed by another rush of watery fluid. Repeated pelvic and abdominal examinations during the latter months of 1897 revealed no tumour. In the spring of 1898 a fourth attack of watery discharge occurred with severe pain. On April 3rd, 1898, a swelling was first discovered behind and to the left of the uterus. Subsequent examination at the end of April confirmed the presence of a tumour which had grown rapidly and the preliminary diagnosis of a malignant ovarian tumour was made. Abdominal section was performed on May 5th, 1898 The tumour proved to be an enlarged Fallopian tube filled with growth. The operation was one of great difficulty owing to many adhesions and the tube ruptured during the operation. The ovary on the same side was cystic but not infiltrated with growth. The appendages on the other side were healthy. There was no secondary growth or infiltration of the pelvis at the time of operation or any free peritoneal fluid. The patient recovered from the operation. In November, 1898, a favourable report was received of her condition, but early in January, 1899, she was not so well and examination proved that there was already well-marked recurrence of malignant growth in the pelvis.—The PRESIDENT remarked that carcinoma of the tube certainly arose from papilloma such as occasionally developed in an old hydrosalpinx. Mr. Roberts's case seemed to be of that type. In the tables which he himself had prepared[1] the patients were 60 years old in two out of a total of 25 cases and between 56 and 59 in two more. He thought that Doléris was correct in distinguishing an endo-salpingitic papilloma and had himself demonstrated the relation of papilloma to inflammation as long ago as 1879 and noted the malignant degeneration of papilloma in 1888. He had recently come across a case of papilloma of the tube associated with malignant tumour of the broad ligament. He doubted whether cancer had ever been seen to develop in a previously healthy tube.—Dr. CULLINGWORTH said that the question as to the connexion between papilloma and carcinoma could scarcely be settled until an opportunity occurred of examining a carcinomatous tube at an early stage. He (the speaker), notwithstanding that he had had a fairly large experience in tubal affections, had not as yet happened to meet with a single example.—Dr. AMAND ROUTH alluded to a case of primary carcinoma of the Fallopian tube which he had reported to this society. He doubted whether these cases began with papilloma, the microscopic section showing nothing in common with the forms of malignant papilloma which he had seen invading the uterine wall.—Mr. ROBERTS said that he had not been able to find any case recorded below the age of 38 years. He believed the pain to be due to the distension of the tube by fluid which when the tension rose above a certain limit escaped as a cherry-coloured discharge He thought it quite possible that the case started in an old hydrosalpinx, though there was nothing in the previous history to show this. It was very difficult, if not impossible, to distinguish between papilloma and carcinoma of the tube.

The following specimens were shown:—

Dr. SMYLY (Dublin): Three Myomatous Uteri removed per vaginam by Doyen's method.

Mr. BLAND SUTTON: (1) A Ruptured Ovarian Tumour and (2) an Acardiac Calf.

Mr. A. LIONEL SMITH: An Infant showing Diffused Subcutaneous Induration.

Dr. DAKIN: A Fibro-myoma Spontaneously Enucleated during Labour.

HARVEIAN SOCIETY OF LONDON.

Vanishing Tumours.—Exhibition of Specimen.

A MEETING of this society was held on March 2nd, Mr. HENRY JULER, President, being in the chair.

Mr. D'ARCY POWER read a paper on Vanishing Tumours which was published in THE LANCET of March 4th.

The PRESIDENT referred to the case of a woman who had been under his care in whom both eyeballs were protruding and there was extensive anæsthesia about the forehead and almost complete blindness. In each orbit an indurated mass could be felt at the outer canthus and below the globe. The growths were believed to be malignant and a portion of one of them which was removed for microscopic examination presented appearances which were believed to be sarcomatous and not gummatous. After a few months' treatment with mercury and iodide of potassium the tumours entirely disappeared. They were in all probability gummata.

Mr. ALBAN DORAN suspected that Morrant Baker's "withering sarcoma" of the scalp was akin to the fibromas of the abdominal wall, a large specimen of which he had himself removed from the sheath of the rectus that very day. They caused danger by their size, but sometimes disappeared spontaneously. Reed of Cincinnati had reported one case where the tumour seemed to be irremoveable when exposed by the knife; the skin wound was closed and the tumour, certainly a fibroma, disappeared. Mr. Doran knew of a case where a patient refused operation for what seemed to be a fibroma of the abdominal wall. She became pregnant and the tumour vanished. The majority of vanishing tumours in the abdominal cavity itself were simply cases of tuberculous peritonitis. When a "cyst" was diagnosed and a circumscribed collection of serum bounded by intestine bearing old tuberculous deposit was laid open by the knife it was apt to be mistaken for a cyst of the urachus or for a malignant ovarian tumour with metastatic deposits. Even after long experience the surgeon often found such a case very puzzling. But it nearly always got well. Mr. Doran had seen perfect cure follow incision in a number of cases where he had designedly incised the peritoneum for the relief of tuberculous disease and also in two instances where he suspected the dense deposit in the parietal peritoneum to be malignant. He had never known of a case of exploratory incision where real sarcoma or carcinoma was detected which had benefited in the least by such interference.

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[1] Transaction place Obstetrical Society of London, 1898.
898.

Dr. F. M. COCK mentioned the case of a widow, aged 71 years, who was feverish. On examination a hard mass was found reaching from the right pelvic wall to the lower border of the liver, easily defined from side to side, not doughy to the touch, and extremely tender. The uterus was partly fixed and there was a bloody discharge. Purgatives had no effect nor were there any symptoms or signs of fæcal accumulation. Consultants were of opinion that the mass was carcinomatous. After an illness of 10 weeks the patient became better, the mass shrank, and at the end of a six months' holiday at the seaside the patient returned quite well with no tumour and ultimately died five years afterwards from bronchitis.

Mr. EASTES referred to the large number of vanishing tumours which were associated with various parts of the organs of generation (male and female), including the female breast. A striking instance was furnished by fibromata of the uterus occurring in middle life. He had seen a uterine fibroid (as large as a pregnant uterus towards the end of gestation) disappear almost entirely within a year after cessation of menstruation and the patient recover health, though previously she had nearly died on several occasions from excessive "monthly floodings." But the vanishing tumours most often seen in general practice were probably fæcal accumulations in the colon. One patient who found aperient remedies always produce pain and consequently neglected them had twice within the last two years allowed such an accumulation to occur and passed through a severe illness before she was relieved. She probably had adhesions; at any rate, there was a history of peritonitis in childhood with constipation ever since. During each of these later illnesses the cylindrical accumulation in the ascending colon measuring six inches in length and four inches in diameter had occupied a fortnight in vanishing, and several days in that period some 10 or 12 distinct, hard, almost spherical masses of fæces had to be removed by the finger or large enemata from the rectum. The medicine which had accomplished the removal in the last illness was a pill composed of resin, podophyllin, and extract of belladonna, an eighth of a grain of each in each pill, given once, twice, or thrice daily according to the necessities of the case.

Dr. LEONARD GUTHRIE believed that there were well-authenticated instances of the spontaneous disappearance of tumours both malignant and benign. The causation of this was of greater interest than the occurrence. Mr. Alban Doran had mentioned a case in which a large abdominal tumour disappeared after ligature of its principal vessels. Perhaps this was the clue to the whole mystery. Tumours were dependent on their blood-supply for their growth. If the blood was cut off the tumour would waste. In most cases this result could not be effected by surgery, but possibly the vaso-motor system might at times cause local constriction of vessels and thus retard the growth of tumours. The phenomena of Raynaud's disease showed that vaso-motor action was capable of producing local gangrene. Possibly the success which occasionally attended the treatment of cancer by drugs depended on their action as vascular astringents. In the last century cancerous breasts were treated by the application of toads which were supposed to suck the venom from the ulcers. But Dr. Lauder Brunton had compared the action of phrynin, the active principle of the secretion of toads' skin, to that of digitalis and erythrophlenin which were powerful vascular astringents. Phrynin has, moreover, a benumbing action on sensory nerves, like aconite. Hence although the remedy seemed absurd it might possibly have been beneficial in some cases. A similar explanation might be offered of the effects of other drugs vaunted as cures for cancer: for instance, carbonate of lime, chian turpentine, and cinnamon, which latter contained tannic acid. Finally, the success which sometimes followed oöphorectomy f[illegible]ble cancer of the breast was possibly due to the profound effect produced by that operation on the whole of the sympathetic system. Perhaps in such cases a local dilatation of vessels in a cancerous region gave place to a local constriction. The effects of strong mental emotion on the sympathetic should not be forgotten. This might account for the miraculous cures of cancer and tumours at Lourdes and elsewhere. But all methods of treatment based on these assumptions were at best uncertain and their effects were but temporary; they were only available in inoperable cases.

Dr. WASHBOURN mentioned some observations which had been made by Mr. Bellingham Smith and himself upon infective sarcomata occurring in dogs and which they had published in the Transactions of the Pathological Society and in the *British Medical Journal*. The sarcomata were originally situated in the mucous membrane of the vagina and penis and were transmitted from animal to animal during the act of coitus. They consisted of round cells with an alveolated arrangement and were similar in structure to the round-celled alveolar sarcomata met with in the human subject. By inoculation they could be transmitted to the subcutaneous tissue of dogs. At the end of two or three months the resulting tumours reached their maximum development, forming lobulated masses about two inches in diameter. They then took one of two courses. Either they became disseminated, secondary nodules appearing in the internal organs causing the death of the animal, or they disappeared. In the latter case they either slowly dwindled away, being replaced by fibrous tissue, or they disappeared by a process of ulceration. A most interesting point was the fact that after the tumour had disappeared the animals were absolutely immune to subsequent inoculations. Up to the present time no micro-organisms bearing a causal relationship to the tumour had been discovered.

Mr. D'ARCY POWER replied.

Mr. BELLAMY GARDNER showed an Improved Ether Inhaler which he had devised. Its advantages were—(1) a breathing channel two inches in diameter; (2) a reservoir for six ounces of ether, the quantity required being emitted upon a sponge by simply turning a tap; and (3) compactness and portability in the filled condition. He had used it in over 700 cases in the past two years and a half and recommended it as combining the advantages of Clover's and Ormsby's inhalers.—In answer to questions by Dr. COCK and Mr. EASTES Mr. GARDNER stated that the supply of ether could be easily regulated and that with ordinary care there was no fear of any fluid entering the face-piece.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.—Peritonitis.—Etiology of Gout.

A MEETING of this society was held on March 1st, Sir JOHN BATTY TUKE, President, being in the chair.

Dr. W. ELDER showed a man exhibiting the Absence of the Fifth Metacarpal Bone in the Left Hand. A radiograph showed that the carpal bones were correct in number but misplaced, while the ring and fourth finger were both articulated to the enlarged head of the (apparently) fourth metacarpal bone. Dr. Elder also showed a man suffering from Amyotrophic Lateral Sclerosis. The signs began to show themselves about 12 years ago. The disease usually affected the arms, but in this case the legs showed the changes. Both feet were markedly clubbed and inverted. The knee-jerks and ankle-clonus were present.

Mr. HAROLD STILES exhibited (1) a boy, aged 12 years, who showed in a marked degree the severe results of Infantile Paralysis; (2) a child, aged seven months, with a very large Hydrencephalocele; and (3) a child with Coxa Vara.

Dr. SCOT SKIRVING and Dr. CAMERON showed a man with Total Necrosis of the Frontal Bone. The patient was 52 years of age and had contracted syphilis 35 years ago. No treatment had ever been carried out. He married two or three years after infection and yet his wife was never affected. He was the father of three healthy children. The whole of the anterior half of the calvarium was wanting and the brain was seen pulsating over this area. The orbital plate on the right side was gone and the upper surface of the eyeball was evident. He did not suffer from any secondary symptoms of the disease. Seven years ago the hard palate became perforated.

Mr. STILES exhibited (1) the Viscera from a case of Lympho-sarcoma of the Abdomen which simulated abdominal tuberculosis clinically; and (2) the Thoracic Viscera from a Child who suffered from Severe Dyspnœa with Expiratory Stridor and in whom there was found at the post-mortem examination an enlarged gland of the size of a small walnut pressing on the lower end of the trachea.

Dr. SCOT SKIRVING showed a specimen of Tuberculosis of the Mamma which occurred in the right breast of a girl, aged 18 years, and a specimen of Compound Fracture of the Carpus.

Mr. CATHCART exhibited a Clinical Research Case which he had devised for use at the bedside.

Mr. CATHCART read a paper entitled Peritonitis as a Cause of Increased Peristalsis in the Rectum and Lower Part of the Intestine. He related the case of a healthy married woman, aged 37 years, who during menstruation developed a follicular tonsillitis. She recovered apparently from this but was seized a few days later with a sudden sharp pain in the pelvis. There was constant tenesmus but no fæces passed. It was thought that she was suffering from an impaction of fæces at the sigmoid flexure and the collapse which she presented was similar to that seen sometimes in simple colic. The patient died suddenly 30 hours after her first seizure At the post-mortem examination an acute recent pelvic peritonitis was found and streptococci were present in the fluid. Death had resulted from septic poisoning. Another case was that of a healthy young married woman, aged 26 years, five months advanced in her first pregnancy. 10 days previously to her being seen she thought she had caught a chill and suffered from such difficulty in micturition that a catheter had to be used. During a motion of her bowels she felt what she described as a great lump which suddenly came down the back passage. Every few minutes spasms came on, the whole body being involved just as in labour and the mucous membrane of the rectum was everted. It looked like an impending abortion but the uterus remained unaffected. A lump was noticed in the perineum and being resonant it was diagnosed as a hernia. Under chloroform reduction was attempted but unsuccessfully. During the night much fœtid fluid and gas escaped through the vagina, showing that a perirectal abscess had burst. The patient miscarried a week later. In this case the cellulitis round the rectum had produced intense tenesmus. Mr Cathcart's work in the lock wards had shown him that proctitis caused frequent action of the bowels and dysuria. During the disease the rectum never regained its tone, the anus remaining patulous. The same condition (gaping anus) was seen in many cases of enlargement of the prostate. It was probably only partially true that the strain in emptying the bladder in such cases caused strain in the rectum; there was probably also a reflex action. Another case related was that of a young man who was operated on for fœtid abscess of the vermiform appendix He remained well for 10 days, then became dull and apathetic. The abdomen became distended and the temperature rose but not the pulse. He lost control over his fæces and the anus became patulous. A fœtid collection of pus was found to be present in the pelvis round the rectum. On opening the abscess the patient recovered. This case was related to show that irritation round the rectum caused increased peristalsis. Certain writers had noted this as a cause, as Potts in 1762 and Ashton in 1857, while others (and especially recent writers) do not refer to it. It had been experimentally shown that peritonitis caused peristalsis in the small intestine. This increase in peristaltic action was later replaced by paralysis which first showed itself in the large intestine. Dr. Gee, in the Bradshaw Lecture of 1892 on the Signs of Peritoneal Disease, said that there was really no difference between the cause of pain in colic and that in peritonitis. Peritonitis caused colic and so there was pain as an early symptom of this affection. The mechanism must act at first through the nervous system, but when the muscular coat became involved this could no longer exert influence and paralysis came on. This increased peristalsis was not present in all cases of peritonitis. The form of irritant might have an important action and again a sufficiently large area of the rectum might require to be involved in order to produce this diarrhœa.

Dr. CHALMERS WATSON read a paper on the Etiology of Gout. After criticising the various definitions of gout he gave a rapid summary of the chemistry of uric acid. In contradiction to Dr. Garrod and Dr. Luff he had found that uric acid was present in the blood of birds and consequently deductions based on the fact that uric acid was not formed in the blood must be untrustworthy. The liver was found to contain a larger absolute amount of uric acid than other organs. Dr. Watson had not found any evidence to support the view that the kidney was the main seat of formation of uric acid.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF ANATOMY AND PHYSIOLOGY.

Effects of Sodium Chloride on the Secretion of Urine.—The Seventh Cranial Nerve.—Anæsthetics and Urinary Secretion.

A MEETING of this section was held on Feb. 3rd, Dr. D. J. COFFEY, the President, being in the chair.

Professor W. H. THOMPSON read a communication dealing with the Effects of Minute Quantities of Sodium Chloride on the Secretion of Urine Solutions of sodium chloride (0·6, 0·65, and 0·9 per cent. strength) were injected into the external saphenous vein of dogs in quantities varying from 30 c.c. to 50 c.c. Urine was collected from both ureters by means of cannulæ. The animals were given a hypodermic injection of morphine and were anæsthetised with a mixture of chloroform and ether. The result was a marked increase in the amount of urine secreted, far exceeding the amount of fluid injected. Both the total nitrogen and the urea also suffered an increase.

Dr BIRMINGHAM read for Professor DIXON of Cardiff an abstract of a paper on the Sensory Distribution of the Seventh Cranial Nerve in Man. Professor Dixon considered that the facial nerve in man was in a condition comparable with what was found in lower vertebrates. It clearly resembled in its distribution what had been called a typical branchial nerve. The facial possessed two sensory branches—namely, the chorda tympani and the great superficial petrosal nerve. Both of these nerves were probably nerves of taste; the chorda tympani certainly was so, but this had not been definitely proved in the case of the great superficial petrosal nerve.—The PRESIDENT thought the question of the nerve of taste one of the most difficult in connexion with the physiology of the nervous system.—Professor SYMINGTON said that with regard to the distribution of the chorda tympani and the great superficial petrosal, on theoretical grounds he should be in perfect harmony with Professor Dixon.—Dr. A. R. PARSONS said if the course which the taste fibres took were known with certainty it would be a great aid in the localisation of disease.

Professor W. H. THOMPSON made a preliminary communication on Anæsthetics and Urinary Secretion, of which the following is a brief summary:—1. A mixture of ether and chloroform (two to one) did not cause an increased diuresis. This was the anæsthetic used in his sodium chloride research. Six experiments were performed on dogs. 2. A C.E. mixture, on the contrary, did in most cases markedly increase the amount of urine. In one case suppression was caused. This dog proved to have albuminuria. 3. Ether also produced an increase of urine, as did chloroform likewise, but with this latter anæsthetic only one experiment had so far been carried out. 4 Little or no effect was produced by the various anæsthetics on the total output of nitrogen and of urea, even in cases where marked diuresis was caused. 5. The after-effect on the output of chlorides showed a marked diminution. What the immediate effect was had not been so far definitely decided. 6. In eight experiments (with different anæsthetics) the urine was examined for carbohydrates with chloride of phenylhydrazin and sodium acetate. All but one gave crystals. Some of these were undoubtedly glucosazone, others glycuronic acid, while in one case it was probable that the crystals were those of galactosazone. In all cases the dogs were injected with a solution of morphine.

SECTION OF OBSTETRICS.

Rotunda Lying-in Hospital Report.—Exhibition of Specimens.

A meeting of this section was held on Feb. 10th, Dr. F. W. KIDD, the President, being in the chair.

A discussion took place on the Rotunda Hospital Obstetrical Report for 1898.

Dr. **More Madden** said the record was most creditable. He believed that this was due to the strict asepsis practised in the hospital. Dr. Purefoy had set a good example in the use of ergot in post-partum hæmorrhage.

Dr. **W. J. Smyly**, referring to accidental hæmorrhage, said that the best treatment was still practised—namely, that if the patient had not strong labour pains it was a mistake to rupture the membranes and if there was external hæmorrhage the uterus should be plugged. In London students taught at the Rotunda had been rejected at examinations for not saying that they would rupture the membranes in such cases. Even the nurses who went up for the examination of the Obstetrical Society were instructed beforehand to say, if asked what they would do in a case of accidental hæmorrhage, that they would rupture the membranes, which, he thought, would be most improper.

Dr. **Macan** pointed out that the mortality of the internal department was, contrary to what they would expect, twice that of the external department.

Dr. **Purefoy**, Master of the Rotunda, in reply said that with regard to the use of ergot in post-partum hæmorrhage it was needless to say that they only used it when the placenta was absent. One possible explanation of the fact that the mortality was greater in the internal than in the external department was of course that the bad cases in the external maternity were admitted into the hospital.

Specimens were exhibited by Dr. **Emily Winifred Dickson**, Dr. **W. J. Smyly**, Dr. **F. W. Kidd**, and others.

Manchester Clinical Society.—A meeting of this society was held on Feb. 21st, Dr. A. Hill Griffith, President, being in the chair.—Mr. F. Bowreman Jessett (London) opened a discussion on the Operative Treatment of Malignant Disease of the Breast and Uterus. He referred to the bad results which had followed operation by the older methods owing to the inperfect knowledge of the mode of spreading of carcinoma and sarcoma and to the ignorance of the anatomy of the lymphatic system. It was only during recent years that the importance of free and wide removal of the disease had been recognised. The researches of Mr. Harold Stiles and of Heidenhain as to the way in which many of the lymphatics of the breast enter the pectoral fascia and pectoral muscle were referred to. Malignant disease, wherever situated, was much more likely to recur after operation in persons under 30 or 35 years of age than in persons over 50 years of age. In old persons by removing the enlarged lymphatic glands again and again the disease might sometimes be eradicated. Hence it was important after removal of the breast to examine the patient every two or three months so that any recurrent growth could be at once removed. The prognosis after operation in malignant disease of the breast depended not only upon the age of the patient but also upon the extent of the operation and upon the nature of the malignant growth. In cases of sarcoma and of duct cancer the prognosis was much better than in cases of scirrhus. Soft, rapidly-growing cancers were also more liable to recurrence. In cases of atrophic scirrhus possibly operation might do more harm than good. In order to preserve the movements of the arm and shoulder-joint it was recommended that the arm should be fastened by means of a bandage to the head of the bed for some days after the operation. In at least 20 per cent. of his cases there had been no recurrence within three years. Mr. Jessett had performed vaginal hysterectomy for uterine carcinoma in over 120 cases. Cases of malignant disease of the os uteri and lower part of the cervix were most favourable for operation. Eleven such patients operated upon between 1892 and 1896, in addition to others of later date, were alive and well. In the body of the uterus the prognosis was not so favourable. He expressed the opinion that many cases arise from malignant degeneration of a submucous fibroid tumour. Between 1891 and 1895 he had performed vaginal hysterectomy for cancer of the body of the uterus 16 times. Four of these patients were free from recurrence at periods varying from three to six years. The most unfavourable cases were those in which the disease commenced in the cervical canal, owing to the rapidity with which the disease extended to the surrounding parts and the uterus becoming fixed. Of the whole 120 cases only eight patients had died as a result of the operation. Of 70 cases operated upon prior to July, 1896, 15 patients were known to be alive and free from recurrence, whilst five others had died more than three years after operation from other diseases than cancer. The importance of early diagnosis of malignant disease, both in the breast and in the uterus, was dwelt upon. Mr. Jessett had in two cases followed the recommendation of Dr. Beatson that oöphorectomy should be performed in certain cases of inoperable cancer of the breast, but in neither case was the slightest benefit noticeable.—Mr. Stanmore Bishop protested against the dictum that those breast cases were least liable to recurrence in which suppuration occurred in the wound. Skin should be sacrificed freely, but it was always best to obtain primary union by gliding flaps or by Thiersch's grafts.—Mr. Milner mentioned two cases in one of which, four years after amputation of the breast for cancer, there were numerous deposits in the scar and in the axillary and supra-clavicular glands. No further operation was performed, but two years later most of these deposits had atrophied and some had disappeared. The patient had been last seen nine years after the operation. In the other case, one of fungating scirrhus of the breast, the tumour and the axillary glands weighed nearly 10 lb. There had been no recurrence four years after operation.—Dr. Helme argued against the opinion that in all cases of discharge from the senile uterus one should infer a malignant origin and should resort to hysterectomy.—Dr. Donald, Dr. Buckley, Dr. Walter, Mr. Platt, Mr. J. W. Smith, and Dr. Graham also took part in the discussion.

Midland Medical Society.—The seventh ordinary meeting of this society was held on March 1st at the Medical Institute, Birmingham, the President, Dr. W. G. Lowe, being in the chair.—Mr. Gamgee showed a case of Coxa Vara. The patient was a male, aged 16 years. The disease affected the left hip and had been noticed seven months. The chief symptom was pain about the hip on standing. The chief physical signs were—(*a*) three-quarters of an inch of shortening; (*b*) free flexion; (*c*) abduction very limited; (*d*) the trochanter above Nélaton's line; (*e*) muscular wasting; and (*f*) displacement of the trochanter outwards. A radiograph was exhibited showing the dropping and lengthening of the neck of the femur which characterised the disease.—Dr. Kauffmann showed a man, aged 53 years, the subject of Senile Chorea. The affection which was attributed by the patient to the carrying of excessively heavy weights (he was a market porter) had come on gradually, commencing two years before in the left hand. There was no nervous disorder in any near relative, several of whom were living. The patient appeared aged beyond his years. His reason was good, his speech was a little jerky, and his voice was feeble. There was no aphasia. The handwriting which the sufferer declared used to be very good was quite illegible, the marks bearing no recognisable resemblance to ordinary letters. The choreic movements affected the face, the respiratory muscles, and all four limbs and resembled in character those seen in juvenile chorea. They ceased only for short periods during sleep, being continued during the greater part of apparently sound sleep. Under observation the movements became markedly aggravated. The muscular weakness was such that the patient could not walk unsupported.—Dr. Short showed a case of Wasting of the Thenar and Interosseous Muscles of the left hand in a compositor. There was no history or sign of lead-poisoning. He had worked for six years with a compositor's "stick" in the left hand and six months ago the left hand was first noticed to be weak. There was some cramp in it at first but no tingling or numbness of the hand. The hand gradually wasted and when seen two months ago showed the reaction of degeneration. There had been no sensory symptoms throughout. Great improvement had taken place under treatment and now there was no reaction of degeneration. His hand was now fairly strong. In spite of the great improvement the prognosis in this case was still doubtful. It was shown as one of the cases referred to in Dr. Short's paper on the treatment of "Occupation Neuroses."—Mr. Jordan Lloyd showed specimens of Carotid and Aortic Aneurysms removed post mortem from the body of a man, 38 years of age. The man had a healthy history and had never suffered from venereal disease of any kind. Seven weeks before his death he had first observed a swelling in the right side of the neck at the level of the upper border of the larynx which had the ordinary characters of a carotid aneurysm. He was admitted into the Queen's Hospital for the purpose of ligation of the vessel. He was then in his usual health. During the night preceding the morning on which the operation was to have been performed he was suddenly taken with hæmoptysis—small in amount—became collapsed, and died within half-an-hour of the onset of the first symptoms. The necropsy showed death to have been due to a rupture of a moderate-sized aneurysm of the thoracic aorta situated about three inches beyond the arch and developed from the right side of the vessel over the front of the spine towards the right pleura. Rupture had taken place into this cavity. The lower lobe of the right lung was adherent to the wall of the aneurysm and at the site of this adhesion an escape of blood had taken place into the lung, giving rise to a large pulmonary apoplexy. The man had not complained of any symptom which directed attention specially to the chest, but the lungs and heart were examined in the ordinary manner and passed as healthy.—Dr. Walter Jordan read a paper on Spastic Paralysis in Childhood.—Dr. Short read a paper on Ten Cases of Occupation Neuroses.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held at 20, Hanover-square, W., on March 2nd, the President, Dr. R. Fortescue Fox (Strathpeffer Spa), being in the chair.—20 candidates were elected.—Dr. Douglas Kerr (Bath) read a paper on the Treatment of Disease by Heat. After mentioning that the Turkish bath was first introduced into England in 1860 he referred to box baths heated by lamps of various forms and described the Tallerman, Dowsing, and Greville apparatus. He pointed out that the principle underlying the treatment was expressed in the fact that cold applied to the body surface stimulates, while heat facilitates, function; he made a strong point of the use of whole body-bathing in hot air apparatus as against local appliances; he gave the facts of such high temperatures as are noted in textbooks and expressed the opinion that hot-air baths would prove a useful adjunct to thermal treatment but would not give such good results when employed alone. Dr. Kerr concluded by pointing out the peculiarity of the heat supplied by the Dowsing bath which was luminous and radiant, in this respect more closely resembling the sun's rays.—Dr. Hedley (London) read a paper entitled the Therapeutics of Heat. He first referred to the hygienic and curative uses of heat in ancient and modern times. He then discussed the merits and demerits of recent apparatus for the application of high temperatures to the body, giving marked preference to such as supplied heat from a luminous source, inasmuch as it had been proved by experiment that as light rays were added the heat rays became more intense. He then dwelt upon the *modus operandi* of heat in therapeutics, taking the instance of a simple sprain and those phases of the inflammatory process that were likely to be influenced by heat.—Dr. Whitby (Clifton) said that both dry and moist heat caused a measurable increase of the girth of the limbs and a decrease of the abdominal girth, the latter from depletion of the splanchnic vessels.—Dr. Luff (London) said that he had had excellent results from the employment of local superheated air-baths in selected cases of gout, rheumatism, and rheumatoid arthritis.—Dr. James Myrtle (Harrogate) said that the great and immediate relief of local pain so often seen was probably due to a soothing action on the peripheral nerves and on the vaso-motor system. He then illustrated the clinical value of the superheated air-bath by relating the history of several cases, in one of which a temperature of 392° F. had been attained.—Dr. Bowles (London) said that in the Dowsing bath it was claimed that the heat was radiant and produced different effects. Inasmuch as it had light as well as heat it was different, but the value of the effect of this light had not been in any way gauged. In his experiments in the Alps he found that light reflected from snow acted quite differently on the human tissues to direct sunlight and that the effects were entirely out of proportion to direct heat.—Dr. Hyde (Buxton) remarked that after several years' observations he discovered, especially in rheumatoid arthritis, that many of his apparent successes were not permanent. In many the pain and swelling remained reduced, but the joints afterwards became more fixed and crippled.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 21st, the President, Dr. J. B. Berry, being in the chair.—The following cases and specimens were shown:—Dr. March: A Case of Actinomycosis of the Upper Jaw.—Dr. J. H. Bell: A Case of Leucoplakia of the Tongue.—Dr. Bronner: Two Cases of Operation for Mastoid Disease.—Dr. Mitchell: A Specimen of Hydatidiform Mole.—Dr. Althorp showed specimens of (1) Sarcoma of the Sternum; and (2) an Ovarian Tumour removed by Operation.—Mr. Rawson showed a Foreign Body (wire with attached thread) removed from the Male Urethra.—Mr. Wilmot showed: (1) A Stomach showing Extensive Ulceration; (2) Cerebral Hæmorrhage in a girl, aged 19 years; and (3) Cardiac Thrombosis.—Dr. Campbell showed organs from a case of Lymphadenoma.—Dr. Rabagliati showed a Fibroma of the Uterus removed by operation.—Dr. Wood showed a Fibroma of the Uterus removed by operation.—Dr. Mitchell related a case of Recurrent Melanotic Sarcoma which he had treated by the application of formalin. The case was one in which a melanotic sarcoma of the cheek had been twice removed and had recurred. The recurrent growth was of the size of the first and was not deemed suitable for further operation. The skin over the growth had ulcerated and constant hæmorrhage was taking place. The hæmorrhage was not stopped by the use of ordinary styptics and the application of a strong solution of formalin was tried. This was completely successful in checking hæmorrhage, and not only so but it induced coagulation and dry necrosis of the tissues for a depth of about a quarter of an inch. This dried portion could be removed by the knife without any bleeding and thus it was possible to get away all the obvious growth piecemeal. The solution contained 20 per cent. of formic aldehyde and was applied by soaking a piece of cotton wool and covering this with gutta-percha to prevent evaporation. A good deal of pain was caused by the application which lasted for a considerable time; the pain was controlled by the administration of opiates. Some œdema of the eyelid and also of the neck was occasionally produced but caused no trouble. Dr. Mitchell suggested that the application of formalin might form a useful means of treatment in cases of tumour which for various reasons were not amenable to ordinary surgical treatment.—Dr. Bronner read a paper advocating the Use of Protargol as a Local Application in Diseases of the Eye and Throat in cases where nitrate of silver had been usually employed. Among the advantages he enumerated were its comparative painlessness in application and its non-staining property.—Mr. Horrocks read a paper on Gastroplication for Dilated Stomach.

HAMPSTEAD MEDICAL SOCIETY.—A meeting of this society was held on Feb. 14th at 167, West-end-lane, at the invitation of Mr. Hardwicke.—Mr. A. H. Tubby gave a lecture on the Diagnosis and Treatment of Sprains and on some Fractures. After referring to the difficulty of diagnosis of sprains and to the use of the x rays in excluding fractures he defined a sprain as a momentary alteration in the relation of bones with injury to the surrounding tissues, described the structures comprising a joint, and enumerated the following as the symptoms of sprains. 1. Pain of short duration due to the stretching of ligaments and soft tissues. 2. A quiescent stage of from two to three hours' duration during which effusion of blood and lymph took place. 3. Pain of long duration due to pressure by effusion on terminal nerves. 4. Extravasation of blood. It was important to watch the site of this as it gave a fair indication as to the ligaments injured and the future direction of passive movement later. 6. Tender spots which were usually found in the following situations: (*a*) in sprain of the knee at the internal tuberosity of the tibia; (*b*) in sprain of the ankle at the top of each malleolus; and (*c*) in sprain of the elbow about one inch below the external condyle. The following treatment was recommended:—First stage: Place the joint in such a position as to ensure the smallest potential cavity. Immobilise. Apply firm pressure by means of wool and bandage. Use an ice-bag or evaporating lotion. Maintain this until the third stage is reached. Then, employ gentle massage and heat to aid resolution. If the tender spots persisted iodine and blistering should be resorted to. In a child when a sprain does not clear up in six weeks tuberculous disease should be suspected and the parts should be rigidly immobilised. Mr. Tubby then passed on to consider "some fractures," remarking that of all these injuries those in the neighbourhood of the elbow were the most difficult to diagnose. He propounded this axiom which he had learnt from Mr. Robert Jones. In all cases of acute or doubtful injury at the elbow-joint, excluding fracture of the olecranon, extend, supinate, flex fully, and fix in this position. Avoid splints and bandage the arm to the chest and the hand to the opposite shoulder. This treatment was suitable for fracture of the condyles, coronoid process, or transverse fracture of the lower end of the humerus. Reference was then made to subluxation of the radius and separation of the epiphyses in children. Pott's fracture was briefly touched on, the necessity of over-inversion being urged in every case. The splints advocated were plaster of Paris (Croft's) and malleable iron.—A discussion followed.

Nottingham Medico-Chirurgical Society.—A meeting of this society was held on March 1st, Mr. T. Davies Pryce, President, being in the chair.—Dr. J. W. Noble read a paper on Joint Affections in Locomotor Ataxia, describing an interesting case which had been under his care for the past two years. The patient, a woman, aged 39 years, with a history of syphilis, had been ataxic in her walking for less than a year before the onset of the swelling in her right knee. The effusion reached its maximum size in three or four days and by the end of three weeks there was much deposit of bone salts. The bony growth had since been gradually absorbed, giving rise to an outward and upward dislocation of the tibia on the femur, the outer condyle of the femur and the inner tuberosity of the tibia having disappeared. The morbid anatomy of the joint was described, also that of the spinal cord, and the theories as to the causation of the joints being so suddenly and apparently capriciously affected were discussed. Contrasting the tabetic affection of the joint with rheumatoid arthritis the differences were chiefly (1) the sudden onset; (2) the comparative painlessness; (3) the size of the joint affected; and (4) the affection of one joint only as a rule, the foregoing being characteristics of the tabetic joint affection.—Mr. Laws showed a patient suffering from Ophthalmoplegia Interna. He considered that this case supported the view that the paralysis was due to an affection of the bulb.—Mr. R. C. Chicken showed a case of Compound Depressed Fracture of the Skull produced by a Kick from a Horse. The patient was a child aged six years. He had been trephined three times in all, once soon after the accident and twice subsequently for paralysis which remained. When shown he was perfectly well. Mr. Chicken also showed a Small Foreign Body which had lodged in the bronchus of a child producing intense dyspnœa and lividity, with coughing and other urgent symptoms. It remained in the bronchus for a day or two and was then coughed up. It proved to be a piece of walnut.—Mr. J. G. Willis showed a Cystic Adenoma of the Thyroid which he had removed by operation from the patient whom he had shown at the previous meeting. The incision for the removal had been made down the anterior border of the sterno-mastoid and when the capsule had been defined enucleation was not attended with any great difficulty.

West London Medico-Chirurgical Society.—A clinical meeting of this society was held at the West London Hospital on March 3rd, Dr. S. D. Clippingdale, President, being in the chair.—Dr. Andrew Elliot showed a case of well-marked Locomotor Ataxy in a Woman.—Mr. William John spoke.—Mr. McAdam Eccles showed (for Dr. G. P. Shuter) a Survivor of the Faversham Detonator Explosion. She had lost her sight and had suffered amputation of the left forearm.—The President showed a young woman who exhibited a Want of Development of the Left Forearm and Hand.—Mr. Rowland Pollock showed two brothers with Multiple Want of Development of the Hands and Feet.—Mr. McAdam Eccles showed a man with Marked Want of Growth of the Right Upper Limb.—These cases of deformity were admirably demonstrated on the fluorescent screen by Dr. H. Low and were discussed by Dr. H. P. Potter, Dr. E. P. Paton, Dr. P. Abraham, Mr. F. Savery, Mr. W. E. C. Musson, and Mr. Vaughan Pendred.—Mr. Brindley James showed a young man with a Deep Sulcus above and behind the Upper Part of the Manubrium Sterni.—Mr. McAdam Eccles and Dr. E. P. Paton made a few remarks.—Dr. Andrew Elliot showed (for Dr. Seymour Taylor) a man who presented many of the Symptoms of Myxœdema.—Mr. McAdam Eccles exhibited a man with a Marked Nævoid Condition of the Penis and Scrotum.—Mr. Vaughan Pendred showed: (1) A girl, aged 19 years, who had marked symptoms of what appeared to be Pseudo-hypertrophic Paralysis; and (2) a case of possibly Early Acromegaly.—The cases were discussed by Dr. Arthur Haydon.

Æsculapian Society of London.—A meeting of this society was held on March 3rd, the President, Mr. D. H. Goodsall, being in the chair.—Mr. W. Campbell M'Donnell showed a photograph, sketch, and microscopic specimen of a Multiple Diffuse Myoma from a multipara, aged 37 years, an alcoholic, who died from septicæmia. The attendant had tried for an hour to remove the placenta by the hand in utero but only partly succeeded. Hyperpyrexia followed on the third morning when a handful of placenta was removed. Under ether further attempts were made to remove what seemed to be adherent fibrosed fragments, some of which were removed by the blunt curette. A later attempt was made on the fifth day. The patient died from cardiac failure 12 hours after the operation. From the first the pulse was bad, being 130 per minute, with a temperature of 99° F. The uterus was covered for the greater part of its body with bossy and pedunculated masses which were growing in the cornual angles and were, as proved by the microscope, of myomatous structure. The upper third of the endometrium was gangrenous and the broad ligaments were intensely inflamed. The lymphatics of the myoma were crowded with micrococci and there was no reactionary inflammation there.—Dr. B. G. Morison read notes of a case of Rectal Impaction of Tiger Nuts in a boy, aged 11 years, who was anæsthetised on account of the impracticability of removing the mass by the finger or spoon. Then ovum forceps removed a soap-dishful of undigested nuts. On the third day he passed a "concrete-like motion" after an enema and did well.

Reviews and Notices of Books.

A Manual of Diseases of the Nervous System. By Sir William Gowers, M.D., F.R.C.P. Lond., F.R.S. Third edition. Edited by Sir William Gowers and James Taylor, M.A., M.D.Edin., F.R.C.P. Lond. Volume I., Diseases of the Nerves and Spinal Cord. London: J. & A. Churchill. 1899. Price 15s.

We welcome the appearance of the first volume of a new edition of Sir William Gowers's great work which is certain to be the standard authority on diseases of the nervous system for many years to come. In reviewing former editions we have spoken fully of the completeness of its scope, the wealth of clinical and pathological information in every page, of the soundness of its teaching, and of the remarkable clearness and aptness of the diction employed, and in the present edition we can speak in even stronger terms in praise of its excellence. The book throughout bears evidence of the most careful revision. The account of the structure and functions of the spinal cord has been re-written so as to incorporate the results of the researches of Golgi, Ramon y Cajal, and others. Sir William Gowers himself contributed so powerfully to the establishment of the new doctrines in his work, "The Dynamics of Life," that his riper views will be read with interest. The nerve cell is dethroned from its position as the all-important element in the cord and in its place we find the "neuron"—i.e., the cell plus its axis cylinder and its short processes with their branching terminations. The adoption has involved alterations in speaking of the pathology of most of the organic diseases of the spinal cord and it will still more profoundly affect the teaching as to the pathology of the diseases of the brain.

There is an admirable chapter on the value of various symptoms in indicating the locality and extent of spinal lesions and the usefulness of the section has been increased by a reproduction of the diagrams showing the sensory root areas as described by Dr. Henry Head.

A very clear account of the present state of our knowledge with regard to the "muscle spindles"—the sensory organs of muscle—is given as an appendix by Dr. F. E. Batten.

Of the new matter the most important is the section on Sclerosis from Toxic Blood States on which Dr. Taylor has previously published instructive papers. The form known as pellagra, supposed to be due to some fungus or micro-organism growing on maize, and the sclerosis associated with anæmia and other blood states are well described and illustrated by micro-photographs of characteristic sections.

There are a few changes in nomenclature. "Infantile Paralysis" and "Progressive Muscular Atrophy" are displaced by "Acute Atrophic Paralysis" and "Chronic Muscular Atrophy."

A number of new illustrations are scattered through the book and we are glad to see that it is printed on better paper than that used for previous editions. We would point out, however, that some of the blocks show signs of wear and the resulting prints are not quite worthy of so important a book and in the second volume we have *no doubt that* this point will not escape attention.

Sir William Gowers's book is already an accepted classic on neurology and one of which he and the profession in England may well be proud, since it is a standard text-book in other countries besides our own, and we heartily congratulate Sir William Gowers and Dr. James Taylor on the appearance of this new edition which will not merely sustain the very high reputation which the manual enjoys but will enhance it.

The Anatomy of Labour as Studied in Frozen Sections. By A. H. F. BARBOUR, M.D., F.R.S. Edin. Second edition. Post 8vo. Edinburgh: W. & A. K. Johnston. 1899.

IN the second edition of his book Dr. Barbour has added the results obtained from the study of the 25 frozen sections illustrating the anatomy of labour published during the last 10 years. As the new facts simply support and supplement the conclusions already arrived at he has not re-written the whole book but embodied them in a new chapter. It is interesting to note how fully the new facts do corroborate the conclusions of Dr. Barbour and the other workers in this field of anatomy, and although the time has not yet arrived when the history of labour can be constructed from a series of frozen sections, yet our knowledge upon various details is much fuller than it was and is in some respects almost complete. Valuable assistance has been derived in the study of the more recent sections by the use of casts for determining the forms and relations of cavities and masses.

We may briefly call attention to some of the more important points brought out by a study of the 38 sections which are now available for the student. An examination of the relations of the peritoneum shows that while anteriorly there is a tendency to its elevation during the first stage of labour and still more so during the second stage, posteriorly the level of the pouch of Douglas does not tend to be affected by labour. The fact that the level of the fundus of the uterus is the same, or even relatively higher, in the second stage than in the first stage is confirmed by Dr. Barbour's section of a case towards the end of the second stage of labour. Casts of the form of the uterus during pregnancy and labour show that while the pregnant uterus moulds itself upon the spinal column and pelvis, the uterus during the second stage moulds itself upon the child.

Von Franqué's researches upon the relations of the lower uterine segment and the cervix, taken together with the recent sections, may be regarded as settling once and for all the celebrated discussion as to the exact limits of the cervix and undoubtedly show that no portion of that canal takes part in the formation of the uterine cavity. The elongation of the body of the fœtus during the second stage by the straightening of its spinal column is well shown by the attitude of the fœtus from a case towards the end of the second stage of labour. A very interesting point now clearly brought out is that the lower part of the anterior uterine wall is thinner than the rest before labour begins; this thinning is increased during labour. A corresponding part develops posteriorly. There is therefore in a normal labour a separation of the uterine wall into two parts at the retraction ring. In all the sections published except one the chin of the child is flexed on the sternum before the commencement of labour and during the second stage until the head is born. The one exception is Pinard and Varnier's case of occipito-posterior presentation. It becomes a question, therefore, whether we are justified in speaking of flexion as a movement of labour at all. An interesting confirmation of the view that simple diminution of the placental site is not sufficient to cause separation of the placenta is shown by Pestalozza's section with twin placentæ, where there is no separation, and Pinard and Varnier's case of triplets, where the separation has occurred only at the lower margin of the larger placental mass. The membranes are shown to be completely separated during the second stage of labour up to the retraction ring but not above it. Webster's sections from the puerperium bring out two new points: that the uterus after delivery sinks into the pelvis and compresses the veins of the broad ligament and so lessens the bleeding and that the uterus is not diminished in size during the first three to four days of the puerperium.

The study of the anatomy of labour is a very absorbing one and we can cordially recommend the second edition of this book, written as it is by one of the chief authorities, to all those who desire to keep their knowledge of the subject up to date. The book is illustrated by a number of figures and of plates of the more important sections published.

Albuminuria and Bright's Disease. By NESTOR TIRARD, M.D., F.R.C.P. Lond. London: Smith, Elder, and Co. 1899. Pp. 362. 15 Illustrations. *Price 12s. 6d.*

THE appearance of a new work on renal disease cannot fail to excite interest and curiosity as to its contents among medical readers, inasmuch as although a great deal of research has been carried on both at home and abroad no special and critical treatise has appeared on the subject in England for a number of years. Of the two subjects in this volume that of Albuminuria is undoubtedly the better treated. Dr. Tirard divides albuminuria into (1) extra-renal, such as that due to pyelitis or cystitis, and (2) renal or true. The latter is further considered in two groups, of which one includes albuminuria due to definite structural changes in the kidney, while the other contains functional or cyclic albuminuria; hæmatogenous albuminuria due to toxic, dietetic, and febrile causes; and albuminuria due to mechanical factors such as venous engorgement. The prognosis on the various functional forms of albuminuria is definitely stated to be good provided that there is no doubt about the diagnosis; this is especially true, as proved by the author's experience, with regard to dietetic albuminuria.

Special chapters are devoted to Acute Nephritis and to Scarlatinal Nephritis. Under the heading Chronic Nephritis the large white and the contracting white kidney are considered together, and this is convenient, as clinically no hard-and-fast distinction can be drawn between them. The term "cirrhosis of the kidney" is one which, to our mind, has no advantage over the ordinary name "granular kidney"; it is of course used as being the equivalent of fibrosis, but since this is a secondary meaning, it would have been preferable to have avoided a title which, though often suitable to a fibrotic liver, has no special use when applied to the arterio-sclerotic kidney. It is somewhat disappointing not to find more said about the relation of arterio-sclerosis to the kidney changes in the chapter devoted to Cirrhosis of the Kidney. Puerperal nephritis and eclampsia have been made the subject of a useful essay which contains a great deal of valuable information. In the chapter on the retinal changes in Bright's disease there are some admirable coloured plates from originals by Mr. Stanford Morton, while elsewhere there are excellent microscopic drawings of the morbid changes in the kidney which add considerably to the value of the text. The descriptions of the symptoms and treatment of the various forms of Bright's disease are clear and essentially practical. In conclusion we may say that while this work shows no great originality, and cannot be said to add largely to our knowledge, it is thoroughly sound and well considered and is written in a pleasing and graceful style.

LIBRARY TABLE.

Physician's Book for Private Formulæ. Bristol: John Wright and Co.—This is a useful little waistcoat-pocket book with blank leaves labelled alphabetically after the manner of a "Where is it." At the end are a posological table of the 1898 British Pharmacopœia (in which the strength of the preparations for internal use might with advantage be entered), the English and metric weight and measure systems, and a short account of the treatment of poisoning. It is a nicely bound book of convenient size, well adapted for the purpose for which it is intended.

The Purification of Sewage. By SIDNEY BARWISE, M.D. Lond., M.R.C.S. Eng, D.P.H. London: Crosby Lockwood and Son. 1899. Pp. 150. Price 5*s.*—The question of the best method of the purification of sewage has been placed *sub judice* from the fact that a Royal Commission of inquiry is making a practical investigation into the matter. Dr. Barwise's little book is a useful contribution to the subject and sums up clearly the methods now in vogue and the direction in which recent research has seemed to dictate that we should go in order to solve a problem which has long been the *bête noire* of the sanitary engineer. We welcome the publication of this volume because it contains the views of a writer who is competent to judge and who, moreover, is a disinterested person except so far as the attainment of the most sanitary and economic method of dealing with sewage is concerned. The number of books published on the subject during the last decade has been large, but the majority of them have been written by persons interested in specific processes. Dr Barwise has gleaned considerable experience on the question of the purification of sewage in the discharge of his duties as the medical officer of health to the Derbyshire County Council. The book records this experience and the author's opinions of the methods thus encountered. It may be said to contain all that need be known on the subject, being unencumbered by lengthy descriptions of a thousand and one chemical methods which now are known to be both unscientific and extravagant. The last chapter is very much to the point in helping to decide what process of purification to adopt under various circumstances of environment. The descriptions are perfectly simple and lucid and a perusal of the short chapters should save the reader who would be acquainted with the recent developments of the subject much time that would otherwise be lost in a useless study of the enormous number of methods of treatment which now belong to the past.

Year-book of Pharmacy, 1898. London: J. & A. Churchill. Pp. 536. Price 10*s.*—This book is a welcome publication because it is usually admirably compiled and gives an excellent review of the work done every year relating to pharmacy, materia medica, and chemistry. Last year the meeting of the British Pharmaceutical Conference was held at Belfast and many important and interesting papers were read and discussed, the proceedings being published at the end of the volume. The year-book represents a considerable amount of work and the committee of publication are to be congratulated on the product. The book really amounts to an annual bibliography of the additions to our knowledge on the wide subjects indicated.

The Girl's Own Paper.—The March part of this magazi contains the thousandth number, with which is issued a supplement a "portrait gallery" of contributors, includi portraits of members of royal families and men and wome eminent in literature and science.

The Leisure Hour.—In the March issue of this magazi there is an interesting article on a Visit to Lourdes, and well-executed reproduction of Mr. W. Q. Orchardson "Her Mother's Voice."

JOURNALS.

The Journal of Physiology. Edited by M. FOSTER, F.R.S and J. N. LANGLEY, F.R.S. Vol. xxiii., No. 6. London J. Clay and Son. 1899. 27 Figures. Price 5*s.*—This numb contains four articles and concludes with the proceeding of the Physiological Society. The first article, whic occupies the greater part of the number, is by Dr. J. Ros Bradford on the Results following Partial Nephrectomy This operation, even when two-thirds of the total weight o the kidney have been removed, need not be followed b death, but when more than this is ablated death follow from asthenia. The removal of approximately two thirds of the total weight of the kidney is followed by very great increase in the amount of urinary wate and also by an increase in the amount of ure excreted and the fragment of kidney left is able t excrete amounts of urea far larger than those usuall excreted. The nitrogenous extractives of the tissues are increased. The blood-pressure remains high. The second article is by Dr. W. P. Herringham, who contributes a short article on the Quantitative Analysis of Potassium and Sodium in Urine. The third article is by Dr. William Bain and Dr. Wilfrid Edgecombe on the Physiological Action of Certain Mineral Waters and Baths on the Blood and on the Excretion of Urea and Uric Acid, with a note on the Quantitative Relationship between Uric Acid and Leucocytes. The last paper is by Dr. Archibald Garrod and is devoted to Alkaptonuria, a Simple Method for the Extraction of Homogentisinic Acid from the Urine.

The Journal of Physiology. Vol. xxiii. Supplement. An Account of the Proceedings of the Fourth International Physiological Congress held at Cambridge, England, August 23rd to 26th, 1898. Issued by the Physiological Society of Great Britain and edited by LEONARD HILL, M.B. Lond. Cambridge: at the University Press. 1899. Pp. 74. Figs. 27. Price 6*s.*—In this supplementary number of the *Journal of Physiology* Dr. Leonard Hill has given a *résumé* of each of the 92 communications which were received and read at the Cambridge Congress and of the several exhibits which were made. Amongst the more important of the papers read were those of Mr. E. J. Marey advocating the formation of an international commission for the unification and control of physiological recording instruments. Physiological investigations and researches, it is hoped, will thus be rendered more precise and more easily comparable *inter se.* M. Demoor from his researches on cerebral neurones concludes that the nervous elements are plastic but do not present amœboid movements and from his researches on the brain of a dog holds that in this animal there are two kinds of cortical centres—viz., centres of projection and centres of association. The parietal centre of association is highly developed, that of the frontal region is poorly developed. The observations of *Dr. Heger* show that the neurones of the cortex of the brain of many different animals present noticeable difference according to whether they have or have not been excited before death. Several communications are made bearing on the circulation, as that of Dr. Leonard Hill on the influence of gravity on the circulation, showing that whilst in eels and the grass snake in which the cerebrum had been destroyed by pithing the blood gravitates away from the heart on raising them to the vertical position, in the wild rabbit, cat, dog, monkey, and man the power to resist the influence of gravity is very perfectly developed. Dr. W. T. Porter of Boston describes the beat of the isolated mammalian ventricle fed on blood serum alone and showed that even isolated portions of the mammalian ventricle supplied through their nutrient arteries with a small quantity of serum at very low pressure will maintain rhythmical, long-continued, forceful contractions when surrounded by oxygen at high tension. Dr. A. Waller describes the influence of salts upon the electro-mobility of medullated nerve, and states that he found that in the action upon nerve of a salt BA the predominant moiety is B (the basic or electro-positive element)—e.g., any potassium salt is more effective than any sodium salt. Dr. E. Wertheimer and Dr. Lepage give the results of their experiments in exciting the accelerator nerves of the heart and observing the effects of such excitation upon the respiration. Several of the papers read bear testimony to the interest which is taken in physiological chemistry. Thus Mr. A. B. Macmillan of Toronto describes a method for the detection and localisation of Phosphorus in the Tissue Elements; Mr. F. H. Scott gives an account of some points in the Micro-chemistry of Nerve Cells; M. Delezenne gives an account of the Anti-coagulating Substance contained in Peptonised Blood; Dr. S. Fränkel of Vienna gives an account of the Chemistry of Albumin; and Dr. Martin Hahn of Munich deals with the Chemical and Immunising Properties of Plasmine. Another group of papers discusses gland extracts and their action—as, for example, that of M. Livon of Marseilles on the Action of the Extract of the Pituitary Body on the Vagus and of the Extracts of the Adrenals, Spleen, Pancreas, and Thymus on the Blood-pressure, and that of M. G. Moussu of Alfort on the Functions of the Thyroid and Parathyroid Bodies. Several instruments were exhibited at the Congress intended to promote physiological research, such as the sphygmometers of Leonard Hill and Harold Barnard, the autographic balance of J. Fano, the sound or toninductorium of M. H. Kronecker, and the apparatus for demonstrating the movements of the eyeball by Mr. H. P. Bowditch. The editing of the number reflects great credit on Dr. Leonard Hill.

Annales de Gynécologie. February, 1899.—This number contains the following articles: The Gynæcological Instruments of Professor Auguste Reverdin, by Dr. Charles Berthier; a continuation of his paper upon Bacteriological Researches in the Genital Tract of the Female by M. J. Hallé; the Effect of Ligature of the Uterine Arteries upon Hæmorrhages from the Uterus, by Dr. Mangin; a case of Glandular Hypertrophy of the Cervix Uteri of Benign Character simulating a Malignant Tumour, by Dr. de Sinéty; Vagino-abdominal Hysterectomy by Dr. Delagénière; and the usual bibliography.

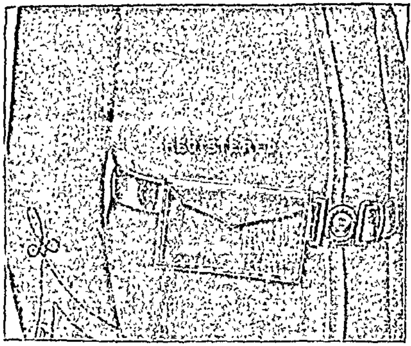
VACCINATION IN TROWBRIDGE UNION.—The returns show that out of 280 births in Trowbridge in 1897 only 16 infants were successfully vaccinated, 97 being unaccounted for, and exemption certificates making up the remainder. In the first half year of 1898 there were 132 births, and of these five infants were vaccinated. In Melksham, of 150 infants born, 29 were vaccinated in 1897, and during the first six months of 1898 only 11 were vaccinated out of 72. At the last meeting of the Wiltshire Standing Joint Committee recently held at Trowbridge the chief constable asked for instructions as to the vaccination of members of the police force. A letter was read from Sir Charles Hobhouse in which he stated that he objected to vaccination being made compulsory in the present state of the law. He suggested that the following question should be put to candidates for the force: "Are you willing to be vaccinated or revaccinated if the police surgeon considers it necessary?" After some discussion a resolution embodying this suggestion was carried unanimously.

New Inventions.

THE MALE NURSE'S WALLET.

"FOR a considerable time," writes Mr. J. H. Parker Wilson, medical officer of Her Majesty's prison at Pentonville, "I have been impressed by the fact that no proper wallet has been placed upon the market for the use of the male nurses in our public institutions, while the wallet which I have devised to meet this want would also, in my opinion be of use to the nurses of our naval and military medica service.

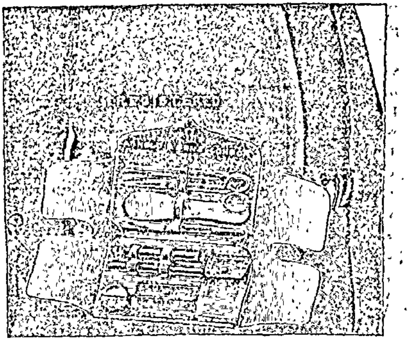
FIG. 1.



The wallet shut.

"The wallet is so constructed, as will be seen by the above illustrations, that it can be adjusted to any belt by means of two loops. It cannot, therefore, be mislaid or forgotten. The contents are as follows: probe, director, spatula, dressing forceps, scissors with blunt points, tape measure, thermometer, pencil case, and pouches for pins, litmus paper, &c."

FIG. 2.



The wallet open.

These contents constitute, in our opinion, all the things most necessary to a nurse in the performance of his or her duties, so that we anticipate for Mr. Wilson's useful little wallet ready acceptance by the persons for whose benefit it has been designed. The makers of the wallet are Messrs, Arnold and Sons, West Smithfield.

THE LANCET.

LONDON: SATURDAY, MARCH 11, 1899.

As we intimated in our issue of March 4th the Executive Committee of the General Medical Council met on Monday, Feb. 27th. The published minutes of the Committee give us an insight into the business which occupied the attention of the Committee and is likely more or less to claim the attention of the Council in May. The mere enumeration of the subjects of the Committee's business will show that there is much to excite the interest of members of the profession. The principal questions dealt with were certain memorials on the issue of certificates of proficiency in departments of medicine, surgery, or midwifery; the risks of the employment of unqualified dispensers by registered practitioners; the creation of bacteriological laboratories; inquiries by the Italian Ambassador at the Court of St. James's as to the regulations which in England govern obstetric aid by midwives and the regulations under which Italian practitioners may practise in England; the law in England as to professional secrecy affecting the medical profession; public instruction in England in the subject of vaccination; restoration of names to the Register and the identification of the applicant; the inspection of documents; the President's report relative to increased penal and disciplinary powers; and the case of ROWLAND, the man who personated a registered practitioner named NUGENT, and who is now in prison.

The minutes of the Executive Committee show, as previous minutes have shown, the tendency of certain persons or sections of the public to appeal to the Privy Council to initiate what they consider to be improvements in medical practice or in the laws by which it is regulated. The Privy Council with much promptitude refers such memorials to the General Medical Council. Few things interest the general practitioner more than the employment of assistants for dispensing medicines. The competence of the person so employed has been left hitherto to the discretion of the medical practitioner. The occurrence of a recent fatal case in which by gross ignorance and carelessness on the part of an unqualified assistant a huge dose of morphine was dispensed has led one or two dispensing chemists to memorialise the Privy Council in favour of such a change in the law as will compel practitioners to employ only assistants who have a qualification for their work from some recognised body, such as the Pharmaceutical Society of Great Britain or the London Society of Apothecaries. The Executive Committee referred this subject to the consideration of the General Medical Council, but in the meantime expressed to the Privy Council the opinion that, whilst fearing the sad occurrence of occasional accidents from the employment of careless or incompetent dispensers, such cases are very rare and that probably the best protection is afforded to the public by the responsibility of the practitioner. It cannot be denied that the surgery of the general practitioner is a good school for learning the art of dispensing and that since pupilage to a practitioner has ceased to be obligatory the facilities for learning dispensing have become less. Practitioners will do well to take note that the competence of their dispensers is sure to engage the attention of the General Medical Council and would be well advised to do what is necessary to eliminate the risk of accidents.

The Executive Committee had before it other communications from departments of the Government. One of these was a communication from Sir EDMUND MONSON to Lord SALISBURY transmitting a Bill recently laid before the Chamber of Deputies by a private member for the establishment in every Department in France of laboratories for the conduct of bacteriological researches with a view to the prevention of disease in general and tuberculosis in particular. The Committee expressed approval of the proposed law and of the foundation of similar laboratories in this country. The Executive Committee wisely referred this communication to the meeting of the General Medical Council in May as well as the note from the Italian Ambassador asking for information as to the conditions under which Italian physicians can practise in Great Britain, and in the meantime directed the registrar to inform the Privy Council that the Committee would welcome a recognition of a right by English practitioners to practise in Italy which would enable *Her Majesty in Council*, under the provisions of Section XVII. of the Medical Act of 1886, to extend similar privileges to Italian practitioners in this country.

The question of the inspection of documents was also before the Executive Committee for consideration and report and the members seem to have arrived at a very sensible and short solution of it, meeting the two requirements which every sensible person recognises—first, the safe care of the documents, and, secondly, the right of every member of the Council to see all its documents. The Committee resolved to recommend to the Council that the Standing Order should run as follows:—

"That all documents of the Medical Council, when not required for use by its legal advisers, be available for inspection by any member of the Council on the following conditions: 1. That a notice in writing of three clear days be given to the Registrar. 2. That the subject of the documents needed for inspection be stated. 3. That the Registrar be held responsible for the safe custody of all documents. 4. That it be an instruction to the Registrar to have the documents so arranged with respect to chronological order and otherwise as to facilitate their inspection. 5. That no documents be removed from the premises of the Council. 6. That all such documents and the information therefrom derived shall be regarded as strictly confidential."

The Executive Committee in these suggestions has clearly expressed the feeling of the Council and of the profession that no impediment should be placed in the way of the study of its documents by members of the Council other than is necessary for their orderly and safe preservation.

We have only space to notice briefly a few other subjects which occupied the time of the Committee. The minutes of the Committee contain a long memorandum drawn up at the request of the President by Mr. MUIR MACKENZIE on "The Law of the Obligation of Medical Practitioners with Regard to Professional Secrecy." This memorandum, or rather the information which it contains, was requested by the Russian Ambassador in London for the use of his Government. The request was addressed by the Ambassador to the Home Secretary and was transmitted by the latter to the General Medical Council. On the subject of granting illegal certificates of proficiency in medicine, surgery, or midwifery the Committee came to the conclusion that as a Midwives Bill is now before Parliament there was no necessity for any immediate action. The important subject of the President's report relative to increased penal and disciplinary powers came up for discussion when it was plain that there is still much objection on the part of the qualifying bodies to be overcome. The Committee has referred the answers of these bodies to Mr. MUIR MACKENZIE for consideration and report at a future meeting.

THE Report of the Departmental Committee on Prison Dietaries which has just been published is a clear and concise exposition on the subject of prison dietetics. The whole report affords evidence that the question has been thoroughly investigated and that the opinions therein expressed are the result of careful study and mature deliberation. It is a moot point whether the new scheme of dietary which the committee have formulated will meet with general approval, but there can be no doubt whatever that the proposed changes constitute a much-needed improvement on the existing order of things. For our own part, we have never regarded the present system of local prison dietary as satisfactory. Some 20 years ago, shortly after the existing diets were introduced, THE LANCET had occasion to criticise the composition of the various diets and we more expressly pointed out what we regarded as a grave deficiency in the amount of fatty matter contained in the diets. The opinion which we then held has been amply confirmed by the report of the Departmental Committee for, in alluding to the new intermediate dietary, they state—"Such are the changes we have felt constrained to make with the view of improving the intermediate dietary, the principal net result of which will be a decided increase in the fatty elements which are so necessary in a prison dietary." The guiding principles which seem to have animated the committee in the course of their labours may be regarded as eminently sound and sensible. They *apparently started* with the view that every prisoner should receive the amount of food sufficient to maintain his general health and bodily condition so that on discharge he might be capable of taking up any honest means of livelihood. Having been told in their letter of reference that the main *principle* to be kept in view was that the ordinary prison diet was not to be regarded as an instrument of punishment, they proceeded to eliminate from the new dietary scale the penal element which undoubtedly is a feature of the lower classes of the existing local prison dietary. At the same time they were alive to the grave dangers which might accrue should the lowest of the proposed diets prove an attraction for the loafer or mendicant, and they so framed that scale (Class A) "that it shall consist of the plainest food, unattractive but good and wholesome, and adequate in amount and kind to maintain health and strength for the single week during which it would be given." On more general grounds they took into consideration the fact that the standard of living amongst the outside population has manifestly improved since the introduction of the present dietary; that during the two decades that have elapsed a marked change for the better has taken place in the general conditions of prison life apart from the dietary; and that an improvement has occurred in workhouse dietaries and in those of pauper lunatics located in county and borough asylums. On these premisses coupled with the tenour of the evidence at their disposal, both official and general, they came to the conclusion that some improvement of prison dietaries was necessary.

Before entering upon a critical analysis of the existing diets and before submitting their proposals regarding the constructive changes which they deem necessary, the committee proceed to criticise in no halting manner the present method of application of the local prison dietary which, on their showing, appears complicated and cumbersome in the extreme. The alterations which they suggest simplify matters greatly and must assuredly tend to facility of administration. The principle of variation of diet with length of sentence they have retained, although in a modified form. They have recommended the almost entire abolition of the system of progressive dietary whereby a prisoner is compelled to graduate through the lower diet immediately preceding that proper to his class. The progressive system is regarded as faulty and to have resulted in loss of weight. They have done away with the distinction between hard-labour diets and non-hard-labour diets in local prisons, which under present conditions seems to be a distinction without a difference, for it appears that a very large proportion of men sentenced to hard labour are exempted from performing the hardest tasks of prison labour by reason of physical defect, age, or infirmity, yet by virtue of the terms of their sentence they receive hard labour diet. Their lot, therefore, compares very favourably with that of men sentenced to imprisonment without hard labour who are presumably guilty of less heinous offences and who are practically placed at the same labour on a lower diet. The question is satisfactorily solved by according to men, women, and juveniles respectively a different diet, the diet for men being larger in quantity than the diet for women and the diet for juveniles being somewhat varied by the addition of certain aliments suited to their constitutional requirements. In discussing the dietary for juveniles the committee make some pertinent remarks on the subject of juvenile criminality which are well worthy of quotation. They state: "We have taken particular interest in the diet of juveniles. Witness after witness advocated the inclusion of milk in their dietary and we agree in the suggestion. The tendency of present day prison administration is to treat the youthful criminal in a reformatory rather than in a punitive sense. We are convinced that a large amount of criminality is due to physical and mental degeneracy, and a regimen designed to insure the physical and mental well-being of the youthful delinquent will prove better for the individual and in the long run better for the race. Nothing is more adapted to attain this desired end than a liberal dietary combined with physical exercise." This goes to the root of the whole matter; to those who are conversant with the criminal population, the poor physique, the stunted growth, the deformities, disablements, and disease, inherited or acquired, and due to drink, syphilis, scrofula, rickets, &c., must be visibly apparent. In framing the new scales of dietary the committee sought to arrange that the nutritive value of the food for each class of prisoner, both convict and local, should be fairly equivalent to the standards which experience and scientific considerations have indicated as sufficient for each class collectively; they adopted as a suitable standard for comparison the formula laid down by KÖNIG, a recognised authority on the subject of dietaries, as the minimum daily need of food-stuffs for individuals of both sexes and of various ages performing an average day's work. They aimed at evolving round the standard laid down by KÖNIG a series of diets suited to the varying circumstances of the whole prison population.

The existing and proposed dietaries are compared much to the disadvantage of the former. Class I. and Class II. diets were both found inadequate and unsparingly condemned. This is not to be wondered at seeing that physiologically considered they are about equal in nutritive value to the subsistence and rest diets of the authorities as laid down in the standard works on dietetics. Men cannot be expected to perform hard labour and maintain their weight and condition on diets possessing such low nutritive properties. In Class I. diet what has been termed the "sacred stirabout" will be unknown henceforth in English prisons. The investigations of the committee showed conclusively that a large proportion of prisoners lost weight on Class II. diet which is given for one month. They therefore suggested that a new and better diet (Class B) corresponding closely to the present Class III. diet should early be brought into operation in place of the existing Class II., that the duration of its application should be limited to three months, and, further, that a diet (Class C) corresponding to the present Class IV. should be provided for prisoners undergoing longer sentences. The nutritive properties of the new dietary are superior to those of the dietary at present in force; the amount of nitrogenous and fatty matters shows a decided increase everywhere. There is also an increase in carbo-hydrates except in the highest diet (Class C), but this cannot be regarded as a defect as the carbonaceous elements in the present Class IV. are rather in excess. A valuable series of tables setting forth the chemical composition of the proposed diets and comparing them with those at present in force will be found in Appendix II., to which is attached an instructive summary. The dietary for convicts has been increased in quantity and rendered superior in nutritive value as well as more varied in character. One uniform hospital dietary has been introduced for all the prison hospitals both convict and local. The penal system of dietary has been reformed and the terms for which prisoners can be subjected to dietary punishment have been reduced. With regard to food-supplies the whole-meal flour employed for making bread has been severely criticised: it appears to contain more bran than the specifications allow. It is stated to be essential for the well-being of prisoners that the supply of potatoes should be regular and constant, that samples of food-stuffs should be of recent date, and that stores should always be according to sample; that the appliances for the preparation and cooking of the food are capable of improvement; that it is very desirable that cooks, bakers, and millers should undergo a course of systematic training; that the tin utensils used in the service of the food should be replaced by enamel ware; that where land is available the cultivation of fresh vegetables should be encouraged at convict prisons and that they should be freely used in the dietary; and, finally, that the appointment of a well-qualified and competent inspector of food-supplies is necessary.

The whole report shows evidence of careful drafting and it is apparent that the committee spared neither time nor labour in endeavouring to arrive at a definite opinion regarding the important questions submitted to their judgment.

THERE appeared recently a letter from a medical man in the lay press[1] signed "FAIRFAX" and written possibly by Lord FAIRFAX, a medical peer resident in America. This letter was entitled "The Unrestrained Lunatic Danger" and it invited public attention to a real source of danger to the community while touching the fringe of a much larger question, "Why is it that so many lunatics are at large and unrestrained from being a danger to the community?" The answer which "FAIRFAX" gives to this is, though perfectly correct, only a partial one—viz., that it is difficult to get medical men to certify to a patient's insanity and fitness for detention in a public or private asylum because they know that if the patient gets temporarily better and is released he will almost certainly bring an action against them. Concrete instances such as the following are not unknown to practitioners generally and are well known to lunacy practitioners. A woman who became insane and was duly certified and detained in an asylum for treatment recovered and was eventually discharged. In the interval between her detention and discharge she had succeeded to a sum of £2000, which sum she at once started to invest in legal proceedings against the medical man who certified her insanity. This of itself would show that her mind was not well balanced and sound, and in addition the trial at the High Court of Justice and before a jury further showed that the evidence of her insanity was complete. She lost her case. The woman thereupon, to avoid payment of costs, went through the Bankruptcy Court. The medical man who had to incur large legal expenses in his own defence, failing to get "costs" in the action owing to the woman being a pauper as well as a bankrupt, had to sell all that he had saved and "begin again." This is far from being an isolated case. Physicians who have had experience of lunatics know well, and have at times to their regret felt, the unreasoning rancour and vindictiveness of certain types of patients, notably those of the chronic alcoholic, delusional, and so-called monomaniac kinds, who with unceasing and persistent hatred will follow and persecute the unhappy practitioner who has had a part in certifying them or in otherwise contributing towards their detention. "FAIRFAX" himself asserts that he has not signed a certificate for many years, though he has often been solicited to do so, and other practitioners frequently refuse their signatures. The consequences are therefore serious, for as the result of general refusals numerous lunatics are now at large from this cause alone. "FAIRFAX" mentions two within his own knowledge and others can be adduced. That this constitutes a real danger to society cannot be questioned. It may happen that in some patients their insanity will assume a homicidal form, in others a suicidal form, and in others a variety of persecutory, violent, litigious, or criminal forms. All are more or less dangerous to the community while but few, excepting the suicidal kind, are dangerous to themselves. Up to 1889 medical men signing lunacy certificates were by law liable if the patient was subsequently found sane by a jury, even though the physician had acted in good faith and with all reasonable care in making his statements and signing the certificate. The consequences were that very few medical men, except specialists, would sign one at all and it became "difficult even in the most obvious cases to get a certificate signed."[2] Since 1889, however, the Act provides[3] that the certifying practitioner shall not be liable to prosecution if he has acted "with good faith and reasonable care." This, however, is a matter that cannot be legally decided beforehand; it is not possible legally to establish before the patient is deprived of his liberty and placed under asylum care that the physician certifying is acting *in good faith and with reasonable care*. Hence the patient after his recovery and release may bring an action against the certifying practitioner alleging want of such good faith and care with the result that the medical man has to go through legal proceedings before a higher court and has to show to the satisfaction of the court that the charge is groundless and that it cannot be sustained. Further proceedings can then be stayed but only after the practitioner has been put to expense of time, labour, and money in establishing his case to the satisfaction of the court. Thus it comes about that the statute of 1890, though it has in appearance at least rendered the process of certifying less dangerous to the medical man concerned, is still defective in permitting the infliction of annoyance and expense upon him, even though he has closely conformed with its regulations and has done no wrong. Accordingly medical men are chary of certifying—some refuse point-blank ever to certify—and the consequence is that certain lunatics of a dangerous type are allowed to go freely at large and when a crime is committed and it is found to have been the act of such a lunatic there is an outcry in the public press and as likely as not its object is a medical man. Now, the medical man cannot be expected to watch and guard society and to avert such disasters when for his action in so doing he has, owing to the unsatisfactory state of the law, to lay himself open to vexatious, harassing, and costly litigation. He cannot, and ought not to, be required to be at once a dutiful servant of the public and a scapegoat.

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[1] St. James's Gazette, Feb. 17th, 1899.

This state of things is surely capable of alteration and improvement; and the recent interview between a deputation representing a joint committee of the British Medical Association and the Medico-Psychological Association and the Lord Chancellor (an account of which will be found in THE LANCET of March 4th, p. 604) points to one possible remedy. Various suggestions are feasible but they should all possess this characteristic—that while the interests of the medical profession are safeguarded the process of depriving an alleged lunatic of his liberty should be in no case open to abuse and should be demonstrably above the reach of bribery and corruption. The history of lunatics in asylums during the "fifties" and "sixties" has shown that such abuses did at one time exist. Let a clause, then, be added to the Lunacy Act modifying the provisions of Section 330 in such a way that it would be impossible to bring an action against any certifying medical man except on the ground of bribery, corruption, or conspiracy. If any of these be alleged let a magistrate be empowered after due examination of the case to certify that there is or is not a *primâ-facie* case to go before a higher court; and if the former that the plaintiff should give ample security for costs should he or his advisers insist on taking the case before a higher court. The ends of justice would thus be met, the rights of the medical practitioner as well as of the lunatic would be *safeguarded*, and needless and vexatious litigation would be avoided. The benefits to the community would be that in a short time the number of dangerous maniacs now roaming at large would be greatly diminished, the guarantees of social security increased, and medical men, who are after all servants of the public, would be unfettered in the discharge of a necessary portion of their duties.

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AN obvious and admitted defect in the education of the medical student at the present time is undoubtedly the comparative absence of proper clinical instruction in midwifery. As a rule only the students who have attended the practice of a lying-in institution have full opportunity of seeing the performance of obstetrical operations, while but few have a chance of performing any of these operations themselves. And yet the midwifery forceps has been well termed by BAUDELOCQUE the most important of all surgical instruments and it is undoubtedly the instrument which is most frequently in the hands of the general practitioner.[1] This defect in the practical teaching of midwifery is unfortunately one for which, when the nature of the circumstances is considered, there is little prospect of any remedy being found. It is very unlikely, even supposing that lying-in hospitals were provided and that the general practitioners of the country were not quite able and willing to deal with the general midwifery of the country, that the women of the poorer classes would consent to enter such hospitals; and it is quite certain that if any attempt were made to utilise the material thus obtained for clinical instruction to the same extent as is done in many of the lying-in institutions abroad it would be quite impossible to keep the beds full. We do not wish performance of, at any rate, the simpler obstetrical operations; such a contention would be quite untrue. Any student with an average amount of intelligence and dexterity could be trusted to apply the midwifery forceps for the first time with complete success. It is not so much teaching in the methods of performing the various operations which is required as clinical instruction in the indications for their employment.

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[2] Pitt-Lewis, Smith, and Hawke in Lunacy Law for Medical Men, 1896.

[3] Vide Lunacy Act, 1890, section 330.

The simplest rule which can be laid down for the application of midwifery forceps, and one upon which everyone is agreed, is that the forceps should be employed when their use is attended with less risk to the patient than leaving her alone. Such a rule is a very easy one to enunciate, but the difficulty lies not in its enunciation but in the determination of the various conditions in actual practice in which it will apply. Anyone with a large experience of midwifery practice will know how varying are the circumstances and how varying are the cases in which the application of the forceps is good and correct treatment, and how exceedingly difficult it often is to determine whether the use of the forceps will be attended with greater risk to the mother than the neglect to use them. And yet only too often the young medical man upon first entering practice is called upon to come to such a decision in a difficult case of labour, and the only resources he has to fall back upon to assist him are the theoretical knowledge which he has gained from his text-books and his lectures, and the small amount of practical experience which he has acquired in attending the requisite number of cases of labour, an experience that may not have included a single abnormal case. Little wonder is it, then, that from time to time the young practitioner, yielding perhaps to the importunities of the patient or of her friends, applies the forceps in cases where a man of greater general or special experience would have thought it better to stay his hand.

There can be little doubt that, largely owing to the more extended use of anæsthesia and antiseptics, the midwifery forceps are applied more frequently at the present day than formerly. The question is one of the greatest possible interest to all engaged in midwifery practice and it becomes a matter of great importance to determine whether the increased use of forceps is attended with increased risks to mother and child. If we take into consideration only those cases in which the use of the forceps is clearly indicated and in which no exception can be taken to their employment the answer is certainly in the negative. But various arguments have been brought forward lately to lead us to believe that the abuse of the midwifery forceps is on the increase and that as a result of this the number of cases in which bad results can be directly traced to an improper use of the forceps has been largely augmented. An example which is often cited is the frequency of rupture of the perineum in cases where the forceps have been used. But evidence is accumulating which tends to show that by the use of the axis traction forceps the danger of rupture of the perineum is largely diminished and in fact it appears extremely probable that in a large number of cases by the use of such instruments the perineum can be often saved when it would without their employment inevitably have given way. It is impossible to deny that cases may occur from time to time in which the forceps are used improperly and under such conditions as to increase rather than to lessen the risks to both mother and child. If such an abuse of the instrument exists to any great extent (and we know of no reliable evidence that such is the case), then the cause must be either a want of power on the part of the practitioner to recognise with certainty the special circumstances under which the forceps are indicated or an error of judgment dependent upon an inadequate knowledge of the exact course of normal labour. The number of such mistakes must very largely depend upon the training which the medical man has received as a student and the ultimate blame must therefore be laid upon the shoulders of his teachers or upon the methods of teaching.

Annotations.

"Ne quid nimis."

THE POPE'S RECOVERY.

"PLAIN living and high thinking" have "scored" again and the nonagenarian Pontiff, after an illness followed by an operation which within 24 hours brought 10,000 telegrams of inquiry to the Vatican, has been allowed to leave his bed and, seated in his armchair by the now historic window, to look out on that world from which he has been excluded for more than 21 years. His case in all its incidents and surroundings is a memorable one. Other pontiffs indeed have shown marvellous vitality, though out of the total of 263 16 only have seen their eighty-first year. His immediate predecessor, Pius IX., lived until he was 90 years of age and alone of all the Popes "surpassed the years of Peter" (25) on the papal throne. Clement XI. died in his ninety-third year. Paul IV., elected at 89 years of age, lived four years afterwards; and Gregory IX. died all but a centenarian. But none of these Popes, except Pio Nono for a few years, was a "prisoner," confined to a "palace and a garden," as Leo XIII. has been since February, 1878. They could all leave the Vatican for the Quirinal and both these palaces during the dog-days for Castel Gandolfo, that superb villa overhanging the Alban Lake, well-nigh 2000 feet above sea level. Change of air and change of scene were open to them. But Leo XIII. has never stirred beyond that Mons Vaticanus which retains the insalubrious character given it by Martial. None of them, moreover, in their ninetieth year had to undergo the enucleation of an inflamed cystoid tumour of a quarter of a century's standing, and all this amid the cares of a spiritual empire infinitely greater in number and complexity than the busiest of them ever knew. Of course, in the present case the "personal equation" counts for much. Leo XIII. comes of the ancient stock of the Peccis, mountaineers of the Latian and Neapolitan frontier. From his youth up an indefatigable scholar, he relieved the seclusion of the study with open-air exercise, and during the many years he was Archbishop of Perugia indulged in field-sports mainly with his gun. Then, again, he was happily gifted with the "mens æqua" of his favourite poet, conducing to that even flow of the circulation which is marked by "the pulse of longevity." Over and above this constitutional characteristic he has always had the "will to live," which in the physical sphere is the counterpart of what the greatest of American psychologists has in the religious life called the "will to believe." This effort of volition, conscious or unconscious, is quite compatible, as in Leo's case, with absolute courage in face of death. Indeed, before and after the operation the Pontiff's cheerfulness almost rose to gaiety, expressing itself in pleasant sallies, doubly pleasant for his consultants to hear. It may or may not be truly stated that he congratulated himself, as a hopeful element in the prognosis, on his "having youth on his side." But he certainly spoke and acted as if he had—as if, indeed, he fully shared Professor Mazzoni's belief that after the operation he had at least as many years in store as would suffice to falsify the words whispered into his ear on coronation, "Non videbis annos Petri." His example adds another to the many instances of patriarchal years attained by hard working men, professional and other, in whom "mind and soul according well," with a physique unbroken by excess and braced by manly exercise, have resulted in that "old age" immortalised by Wordsworth as "beautiful and free." That poet himself and his official successor, Lord Tennyson, the Duke of Wellington, and the Emperor William I. are typical examples of that serene "sunset of life" which, succeeding its "fitful fever," shed so rich an afterglow on their decline.

CHILD LABOUR AND ITS HYGIENIC ASPECTS.

AT a recent meeting of the London School Board (Feb. 16th, 1899) a report was presented dealing with the results of inquiries relating to those unfortunate little children in London who have to labour out of school hours for a partial livelihood of their families. The material collected and set forth by Mr. Macnamara reveals a state of things generally unknown to the public and one in need of medical and social reform. The report shows that 1143 children work from 19 to 24 hours a week, exclusively of school hours; 729 work from 30 to 39 hours a week, and 285 children work 40 hours or more a week. The occupations include such as newspaper and milk delivery, shop and factory work, errands, greengrocery, domestic work, and various other employments. At the Aldenham street school, Marylebone, one of the boys works for from 23 to 24 hours a week as an undertaker's help assisting in the gruesome task of measuring corpses, and receiving 1s. a week for his work. Several of the boys work during the afternoon break (of one hour) between school hours. One little lad in Stepney works as a greengrocer's help nearly eight hours every school day (exclusively of school hours), all Saturdays till half an hour past midnight, and three hours on Sunday. The effect of this extra mural labour is that the victims reach school tired and sleepy and quite unfit for their work. "Probably," says the report, "some die as the direct result of the severity of the toil inflicted upon them during their early years, and certainly many more of them must become a permanent and heavy charge upon the public purse because of the physical incapacity resulting from the rigour of their early experiences." It has been suggested that the London County Council which in another direction controls the employment of child performers on the stage should frame by laws preventing labour of those under 14 years of age before 8 A.M. or after 8 P.M., in which case a distinct step in advance would be achieved. Dr. Francis Warner who has patiently studied the physique and capacities of board school children in London for many years stated recently[1] that *physical hygiene* should be studied in these children as well as *mental hygiene*, that the capacity for acquiring and assimilating knowledge was at its best when the child was fresh and not suffering from fatigue, and that many school children unfortunately showed more or less brain fatigue as manifested in their want of accuracy and ease in coördinate voluntary movements (which were also fewer), while "uncontrolled movements" were more common in these children, such as finger twitchings, contraction of the forehead, unequal balance of outstretched arms, with drooping fingers instead of level when in that position, and slower and more inaccurate response to questions, &c. There can be no question of the importance of public attention being drawn to the matter and the London School Board has already taken some action, having resolved to send a letter to the Education Department urging their lordships to call upon the various rural educational authorities to take steps to prevent the illegal employment of children of school age in their districts in labour of various kinds.

THE ILLNESS OF MR. RUDYARD KIPLING.

MR. RUDYARD KIPLING is now pronounced out of immediate danger. His illness was apparently of a complex type combining the wandering form of broncho pneumonia with the definite crisis typical of ordinary lobar pneumonia. It has been considered that Mr. Kipling's attack was certainly consecutive to influenza because of the illness of his two little children, but his medical attendants do not seem to share this view. The universality of the interest which has been taken in Mr. Kipling during his illness is a testimony to the wonderful hold which he has taken upon the minds of men. The vigour of his genius, the nobility of his motives, and the dexterous audacity of his literary methods have gained for him a wonderful audience, so that we find the occupant of the throne and the third form schoolboy, the great poetic artist and the hard headed merchant, the lettered and the ignorant, alike in their sincere admiration, and we may be sure that they are alike also in their sympathy with him and his wife in the sad death of their eldest born.

THE NEW FOOD AND DRUGS BILL.

TWO weeks ago we noted with satisfaction that Mr. Walter Long had evidently grasped the need of repeal that was wanted in regard to the present Food and Drugs Act (1875). This at any rate was the impression which he conveyed in his remarks, which almost amounted to promises, made before a deputation which had sought his assurances. But the Bill introduced by Mr. Long into the House of Commons this week would seem to imply that the Government do not mean to deal with the question with that comprehensiveness which it demands. Indeed, it suggests very little at all in the way of repeal of the sections of the present Act. The only reforms which we can pick out from the Bill, a copy of which we have before us, relate to increased fines, to the form of the certificate of analysis, and to a little extra procedure to be observed when a sample is purchased. These are practically all the steps which it is proposed to take as a result of the recommendations of a Select Committee which laboured on the question for four years. There is to be no Board of Reference, no standards are to be set up, no requirements about preservatives are mentioned, and no particular qualifications are to be demanded from the person filling the office of public analyst. We cannot frankly regard the Bill as a Sale of Food and Drugs Bill at all. Of the 23 clauses in it no less than 11 deal with agricultural products, while eight have to do with the sale of food and drugs, and the remaining four are merely supplemental. In the section dealing with food and drugs there are no definitions laid down. If this Bill passes then it seems to us that the labours of the Select Committee may very reasonably be counted as so much wasted time and money. In reality the Bill is a measure dealing mainly with agricultural products and home produce, aiming at the stopping at the ports of entry of the importation of adulterated articles such as butter, cream, and milk. It will appeal, therefore, very strongly to the home producer and thus Mr. Long will probably secure the support of the agricultural industry. But this is narrowing down what should be a very broad piece of administration. The discussion of the Bill on the second reading is to be continued in the House of Commons this week (Thursday). We must confess that we should learn with satisfaction that the measure was rejected. We understand that an alternative measure is to be introduced by Mr. Kearley. If this measure is drawn up on the plan of the one introduced by that gentleman last year we should like to see it supported on all sides and become, as we believe it could, a workable and a really useful and protective measure.

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[1] Lecture at the Sanitary Institute on the Mental Abilities and Disabilities of Children (February 1899).

PUBLIC ABATTOIRS.

IN the *Irish Times* of March 6th is a long and important letter from Dr. C. F. Moore dealing with the question of the supply of a public slaughter-house for Dublin. We have over and over again expressed our views as to the enormous advantages which public abattoirs possess over private establishments in at any rate urban communities, and Dublin seems to be a town where the need of a public abattoir is especially felt. 20 years ago the Royal Commission of 1879 reported that the offensive condition of the foreshore of the River Liffey was most likely largely due to the offensive waste from the slaughter-houses, and still there are over 60 slaughter-houses within the city and there is no authoritative inspection of either meat- or milk-supply. One public abattoir has been built but without the jurisdiction of the city authorities, so that there is no power to compel the butchers to use it. Here in London we are fighting hard for the abolition of the private slaughter-house but we have the London County Council on our side. In Dublin apparently the municipality have neglected not only this but other equally pressing sanitary reforms. Let us hope that the new Local Government Act for Ireland will be the means of bringing about much-needed reforms.

MORBIFIC OYSTERS IN MILAN.

IT was not until the end of 1898, says a writer in *Saluta Pubblica*, that oysters were for the first time inculpated as the diffusers of cholera, the occasion being a small outbreak of that pestilence which took place at Grimsby and which was recorded in a report by the Director-General of Public Health in England, Sir Richard Thorne, but the fact that these molluscs might become the vehicle whereby the germs of typhoid fever could make good an entrance into the human organism had long before been demonstrated with mathematical exactitude by a great many competent observers in various parts of the world. As long ago as 1895 we published an article in THE LANCET[1] in which the incrimination of infectious oysters as carriers of typhoid fever was conclusively established. The fact that the disease could originate thus was therefore perfectly well known among men of intelligence. On this head no doubt was possible, not even the slightest, just as there can be none regarding the contaminating influence of polluted water. Even if bacteriological research had been successful in demonstrating the presence of the typhoid bacillus in oysters the experiment would simply afford confirmatory evidence of what was already known. The failure so far to isolate the bacillus in the mollusc does not by any means disprove its existence there. It merely serves to show the enormous difficulties that attend upon microscopical investigation. Such being the state of the case the chief medical officer of the sanitary office in Milan, in which city typhoid fever has been committing terrible ravages, conceived it to be his duty, as in reality it was, to warn his fellow-citizens that in consuming oysters they were running a great risk of acquiring an extremely troublesome and dangerous malady. But it happens that the oyster industry in Milan is one of considerable magnitude, affording occupation to a large number of persons. At once a loud and bitter outcry arose. The health officer for no cause or reason whatsoever was trying to deprive honest tradespeople of their sole means of gaining a livelihood. He was an ignoramus, moreover, and his outrageous proclamation betrayed *him*. To accuse the poor, innocent, toothsome oyster of disseminating typhoid germs was a wicked fable flippantly enunciated, but happily the refutation of it was an easy matter. "Spurious scientists" might not be aware of the fact but amongst real men of learning it was well known that the disease could only be caused by a certain microbe, and that this particular species had never yet been discovered between two oyster-shells. An official, highly placed, should be aware of such an elementary truth; it was disgraceful; it was frivolous—and so on. In all lands, civilised or otherwise, the sanitarian is accustomed to misrepresentation and vituperation, but an endeavour to hoist him with his own petard would seem to be a new departure in the gentle art of malediction. Billingsgate has long been renowned, but if this be so the honour and glory of initiating a new form of abuse belongs to the Milanese oystermen.

CODRINGTON COLLEGE, BARBADOES.

CODRINGTON COLLEGE is practically the University of the major part of the West Indies. It was founded in 1710 by General Codrington for the purpose of training West Indian youths to enable them to devote themselves to "the Christian ministry in their native islands." The founder endowed the college with two estates, but these estates, owing to the depression in the sugar industry, are now no longer productive enough to support the college. Owing to the craze for cheapness cane sugar has been supplanted by the greatly inferior sugar from the beet, and so Codrington College, like so many other foundations endowed with land, has fallen upon evil times. Unless a minimum of £5000 is obtained by May 1st the college will have to be closed on June 29th. A letter has been sent to the press signed by the Archbishop of Canterbury and others appealing for funds. Subscriptions may be paid into Messrs. Drummond's bank and cheques should be made payable to "The Trustees of Codrington College or Bearer."

PANCREATIC LITHIASIS.

THE *Journal de Médecine Interne* of Feb. 1st contains an important lecture by M. Lancereaux on this little-known subject. Pancreatic lithiasis is one of the commonest affections of the gland but it is much rarer than biliary lithiasis. Including one under his own care, M. Lancereaux has collected 40 cases; there was persistent diabetes in 12. The etiology has received little attention. Atheroma of arteries, hepatic and renal lithiasis, and chronic rheumatism are frequently associated with pancreatic lithiasis. Possibly the same general condition is a predisposing cause of all. The age at which pancreatic lithiasis is observed (from 30 to 60 years) favours this view. Sedentary life and over-feeding are predisposing causes, as they are of biliary lithiasis. Obstruction, by pressure of a tumour, for example, is an exciting cause of both. Calculi are found in all parts of the gland, but especially at the head. Sometimes there is only one, sometimes a number are present; 300 have been found. They are usually free in the ducts but they may be fixed in the gland. They are spherical, ovoid, or cylindrical; rarely they are granular or arborescent. They vary in size from that of the head of a pin to that of a hazel-nut. Lesions of the pancreas may result. The ducts become dilated. Aided by the stasis microbes enter from the intestine and produce suppuration or gangrene; then there are rigors, fever, and septic symptoms. In other cases sclerosis of the gland and atrophy of the cells result; the pancreatic function fails and a fatal diabetes ensues. Physical signs are rarely found in pancreatic lithiasis. A case is related in which there was an epigastric tumour; this was doubtless a cyst consecutive to dilatation of the canal of Wirsung. The only other sign is the passing of calculi in the stools; the calculi are found by careful sifting and are whitish and composed almost exclusively of carbonate and phosphate of lime. Colic is less frequently produced than in the case of biliary calculi in consequence of the feeble contractility of the canal of Wirsung. The habitual seat of the pains is between the umbilicus and the epigastrium, often at the left costal margin; they radiate along the costal arches to the spine; they are acute but not so intense as those of hepatic colic; and like the latter they are accompanied by anorexia, rigors, cold sweats, nausea, and vomiting. With each crisis occur certain still more important symptoms—glycosuria, fat in the stools, and sometimes, though rarely, in the urine; there are also polyuria, polydipsia, and polyphagia. In fact, there is complete but temporary diabetes, due no doubt to inhibition of the pancreatic secretion analogous to the inhibition observed when one ureter is obstructed by a calculus. Intestinal hæmorrhages have been noted in three cases and passing jaundice in three others. Colic occurs at the beginning of the lithiasis. Later, when the pancreas is profoundly altered, what M. Lancereaux calls "diabète maigre" sets in. The duration of pancreatic lithiasis is variable—days, weeks, a year, several years; the prognosis, too, is variable. If the calculus is passed into the intestine by the duct or by ulceration recovery is possible, but if the duct remains obstructed suppuration, gangrene, and death from septic infection, or sclerosis and atrophy, and death from diabetes, are to be feared. The calculus has passed into the abdominal cavity with fatal hæmorrhage in one case and with peritonitis, almost always fatal, in several. Pancreatic colic is to be distinguished from gastric cramp The pain in the former radiates from the pit of the stomach and in the latter from a little above the umbilicus; it is distinguished from biliary colic by the (usual) absence of jaundice. If in a case of diabetes with wasting there is a history of pancreatic colic the origin of the diabetes in pancreatic calculus is probable. Prophylaxis as in biliary lithiasis consists in exercise, stimulation of the skin by cold douches, and regulation of the diet. Morphia is to be used to relieve pain.

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[1] THE LANCET, Feb. 2nd, 1895, p. 307.

THE DEATH SENTENCE AND CRIMINAL ABORTION.

Mr. Justice Darling on Monday last in charging the grand jury at Chester Assizes referred at length to the case of William Upton who is alleged to have killed a woman named Mary Murray at Macclesfield by means of an illegal operation. The learned judge referred to the notorious cases which have recently been tried and pointed out that where the death sentence had been pronounced everybody in court knew that it would not be carried out. Such a state of the law, he considered, put judges in an undignified and absurd position. It was not well that the highest penalty which man had it in his power to inflict should be gravely decreed against criminals with the full knowledge that the whole proceeding was nothing but a sham from the beginning. He advised the jury upon his own initiative and until some consensus of opinion had been arrived at in the matter not to return a true bill for murder if they thought that the wound though inflicted for an unlawful purpose was not intended to kill and only to find a true bill for murder when it was intended to kill the woman, or at any rate when those who performed the operation did not care if the woman died or not. The grand jury adopted Mr. Justice Darling's suggestion when they came to deal with the matter and we are glad that they did so, for his lordship's advice runs with our own expressed opinion that the Treasury (the almost inevitable prosecutor) should always indict for manslaughter only—unless of course suspicion is present that a deliberate attempt has been made to take life by a uterine wound.

THE HEALTH OF THE PORT OF LONDON.

Dr. Collingridge's half-yearly report on the work of the Sanitary Authority of the Port of London shows that in many respects there has been great improvement and that a higher standard of sanitation is gradually becoming possible. The report states that during the half year under notice 16,127 vessels were inspected, a larger number than in any previous half year since the formation of the authority in 1872. Of the total number of ships visited 82·37 per cent. were under the British flag, while of the Scandinavian ships, the next highest in order, 8·89 per cent. were visited. The medical inspection of vessels on arrival at Gravesend is still carried on satisfactorily in conjunction with Her Majesty's Customs and in this way 5456 vessels from foreign ports were examined. Detailed notes are given of the cases of plague which occurred on vessels entering London from Eastern ports. Two inspectors have been specially appointed for the work of inspecting food. It is mentioned that the imports of mutton into London from all parts have increased from 400 carcasses in 1880 to nearly 4,500,000 in 1898 and the fact is noticed that the condition of frozen meat on arrival is gradually improving.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION AND HABITUAL INEBRIATES.

We have before us in a separate form the Presidential Address of Dr. A. R. Urquhart to the Medico-Psychological Association of Great Britain and Ireland in July last on the occasion of its annual meeting in Edinburgh and find in it not only ample vindication of the work and purposes of this Association, but sundry criticisms on current questions which are worth reverting to. The growth of the Association is shown by the increase of 124 in the membership as compared with the numbers 10 years before. Dr. Urquhart referred with much confidence and satisfaction to the Laboratory of the Scotch Asylums started by Dr. Clouston and aided by the Edinburgh College of Physicians as having been already of distinct service and promising much usefulness in the future in the way of favouring research in all that affects insanity. Dr. Urquhart suggests that the answer to the question—Is insanity on the increase? should be in an indication of all the means by which such increase may be mitigated. He magnified the work of Conolly and showed how the points for which he fought and pleaded in his address to the Association in Edinburgh in 1858 had been practically gained. Dr. Urquhart lamented the absence of legislation for increasing the number of Commissioners in Lunacy, the present number being the same as when the Commissioners were first created to control a number of insane only one-fifth of those now to be cared for. He deprecated all legislation that tended to make the asylum physician a mere official and which opposed freedom of initiative and the range of personal responsibility in the medical superintendent. His remarks on the Inebriates Bill were interesting. He accepts it as a great advance on the Act of 1879 but considers it as a mere instalment. He cannot regard the responsibility of the State towards the victims of drunkenness as discharged by a provision only for those who come under police notice. He has had in 18 years in Murray's Asylum 85 habitual drunkards under his care not half a dozen of whom would have been affected by the provisions of the Act of 1898. His remarks on drunkenness and the nature of the institutions in which it needs to be treated are full of suggestion. He would not wait for "its terminal dementia" but would largely employ early means for frustrating habits of vice or disease. He gently reminds the Association that it has not done all the good on this subject or given all the attention to it which it might have done. We can only hope that future presidents and members will take the hint and give some scientific turn to legislation and work for the benefit of that large proportion of drunkards who are not reached by any legislation at present but are left, to use Dr. Urquhart's words, "to stagger on their way to perdition" often dragging their families in their train.

THE DEATH OF THE REV. DR. BOYD.

ONCE again a valued life has been lost from poisoning through the plan of keeping bottles containing virulent lotions with bottles containing medicines for internal use in such a way that the two remedies are liable to be mistaken for each other. The Rev. Dr. Boyd, popularly known as a writer above the initials "A. K. H. B.," was in the habit of taking sleeping draughts and used also a carbolic acid lotion. The bottles containing these remedies were kept in the same place and in coverings closely resembling each other. The evidence at the inquest showed that the unfortunate gentleman met his death by drinking the corrosive lotion instead of the sedative draught, the mistake probably arising from his omission to remove the wrapper. Accidents of this kind take place in spite of the many contrivances which have been suggested to prevent them. In our columns from time to time we record the invention of new bottles to contain poisons—bottles of various distinguishing shapes, bottles with sonorous "alarms" attached to them, bottles with impediments to their outflow; but such devices, while serving as checks to error sometimes in a very ingenious manner, do not take the place of human intelligence. The catastrophe usually occurs in the case of chronic invalids and when the process of administering the medicine has become an habitual and almost a mechanical one. Care, constant care, is the only talisman which will prevent such accidents, and every medical practitioner should impress this fact upon his patient as well as upon his patient's friends, especially when from the nature of the case a poisonous remedy is likely to be in long use.

THE VICEROY OF INDIA ON MEDICAL SCIENCE.

THE *Times* correspondent in Calcutta telegraphs to that paper a long account of Lord Curzon's speech made at the annual meeting of Lady Dufferin's Fund, held on March 3rd, in which his Excellency is reported to have used the following words:—

"Now I come to the last boon of science, and medical science in particular. About this no two opinions can possibly be entertained. There may be prejudices and scruples arising from long custom, ignorance, or other causes, but doubts there cannot possibly be, and I say this, that if we had come back to you from the West with our medicine in our hand, and with that alone, we should have been justified in our return. For what is this medical science we bring you? It is no mere collection of pragmatical experimental rules. It is built on the bed-rock of pure, irrefutable science; it is a boon which is offered to all, rich and poor, Hindu and Mahomedan, woman and man. It lifts the *purdah* without irreverence. So far as I know it is the only dissolvent which breaks down the barriers of caste without sacrilege. Medical science, indeed, is the most cosmopolitan of all sciences, because it embraces in its merciful appeal every suffering human being in the world."

Lord Curzon's words will be a cause of great pleasure to the profession upon which he has bestowed this eloquent panegyric. Above all things, medicine desires to know no artificial limitations to its scope. To all religions and castes, to all races, and to all social grades alike it offers such assistance as in the present state of the world's knowledge is in its power, the only claims upon it that are recognised being those of disease. We thank Lord Curzon for his public and graceful expression of this view, particularly as there are circumstances now occurring in our Indian Empire which make such expression of unusual significance.

THE DANGERS OF THE KINEMATOGRAPH

NEARLY two years ago we pointed out the desirability of placing kinematographic demonstrations under rigid inspection and control on account of the exceedingly inflammable and almost explosive nature of the celluloid films employed in the apparatus. We said "the danger is no imaginary one," and a recent occurrence at a theatre in Hammersmith fully confirms this statement. Fortunately, however, it was only a rehearsal that was going on. An electrician in charge of the apparatus was terribly burnt, while another person luckily escaped injury although his clothes were burnt. It is stated that suddenly something went wrong with the film and immediately flames shot up, followed by a loud explosion which resulted in the complete destruction of the kinematograph celluloid roll. The combustion appears to have been actuated by a defect in the electric wires. The occurrence shows how easily a panic in a "full house" could be started with the extreme probability of shocking sequelæ. We believe that the London County Council take steps to insure the safe working as far as possible of this apparatus by regular inspection. We trust that they and all other similar authorities in the country will not relax their action one iota in this matter, for the kinematograph as a source of amusement and, we may add, of instruction is being very largely employed in crowded places of public resort. It is imperative, therefore, as we have said before, that some action should be taken to provide as far as possible for the safety of the great numbers of those watching this kind of entertainment.

PERFORATIVE PERITONITIS.

MR. CHARTERS J. SYMONDS recently delivered a most interesting address before the Hunterian Society on the Individual Value of the Symptoms in Perforative Peritonitis, more especially as Regards Operation. Abdominal surgery has made huge advances during the last few years. Physicians when confronted with evidences of acute peritonitis are becoming more and more convinced of the value of obtaining a surgical opinion, for they fully recognise that an early operation has been the means of saving numerous lives, whilst even if an error has been made in diagnosis (and the diagnosis of such cases is attended with countless difficulties) such an operation is rarely productive of permanent harm. Mr. Symonds considered in detail the various symptoms met with in perforative peritonitis. Dealing first with pain he stated that if this symptom occurred at the onset of the illness it was no doubt an indication of severity, allowance being made for the difference in the ability of patients to bear pain (very often an anxious question for the physician). When the pain is limited to the right iliac fossa its value as to the seat of trouble is obvious. The lecturer was also of opinion that when the pain is continuous and distinguished from mere tenderness, and when pain recurs after a period of repose, an operation is indicated, and he insisted on the absolute necessity of not obscuring this valuable sign by the continuous use of sedatives. General abdominal distension and immobility are two of the most important symptoms. In all cases the general distension which does not yield to a tube (or turpentine enema) on the second or third day indicates progressive disease and the case will probably require operation. When a perforating gastric ulcer is suspected there may be no distension for from 12 to 24 hours, at which period it is a serious symptom. In appendix cases, Mr. Symonds said, general distension without localised tumour, without dulness, but with pain and tenderness, has a grave significance; if with the points just mentioned the temperature is continuously raised the case is still more grave and may call for immediate operation even 48 hours after the onset. After referring to other symptoms which might be noticed after general distension has subsided or yielded to the flatus tube or an enema the value of vomiting as a symptom was commented on. Whilst it always accompanies the onset of perforation it may be, and often is, absent in cases of gangrenous appendicitis. As a symptom of onset it indicates severity or suddenness and is present in most cases which run a favourable course. If it recurs after careful feeding, rest, and a sedative it becomes an alarming symptom and as a rule the case demands immediate surgical interference. Of all the symptoms it may as a single one be most relied upon. Mr. Symonds further observed that if vomiting be an important symptom its absence has a significance equally great; in fact, he would be disposed to say that the absence of vomiting causes more anxiety when the question of operation is raised than its presence. We must not, however, wait for this sign; if we do the only opportunity for operation may be lost. We must remember that strict abstention from stomach feeding retards for a time its occurrence and when vomiting does recur under careful treatment the end is probably near. Passing on to the important question of temperature Mr. Symonds quoted cases illustrating the fact that temperature and pulse may steadily fall while dangerous septic processes are advancing, and therefore the absence of pyrexia at the time when we are called to decide the question must be discounted in the face of a reliable history of onset, of early fever, and the fact that the patient is not decidedly better after from four to six days from the onset. Mr. Symonds had many interesting and instructive remarks to make as regards the "period of repose" and the "general condition" of the patient, the first named being especially characteristic of the cases under discussion. He is to be congratulated on having succeeded in conveying so much information in one lecture.

INFLUENZA.

INFLUENZA still continues to strain the powers of medical men and to disable more or less a large proportion of their patients without respect of persons. Statesmen, diplomatists, writers, masters, servants, nonagenarians, and infants are attacked with splendid impartiality. To do the present epidemic justice it does not generally deal so severely with its victims as in the past, and though the number of deaths is still considerable the mortality is much less than on several previous occasions, especially when we consider that winter cold has been in operation, assisted by fogs, for a fortnight past. Most of the cases continue to be of the nature of a febricula, the rise of temperature being sharp and its duration short, with or without catarrh. The pains vary much, but are often eloquently described as severe by patients who do not exaggerate their sufferings. One patient will say that "it feels as if his legs were broken in 20 places," another "as if her back were broken in two." In some cases the pyrexia extends over a week, in others over many weeks, in many of the latter consolidation of the apex of the lung, which gradually abates, being present. Though the profession is sometimes bantered on the subject it continues to be much consulted, and there is no doubt that the longer the attack is ignored the longer will be the duration and the more severe the consequences. The wiser members of the public perceive that if the knowledge of medical men is incomplete there is danger in neglecting to seek their services. People talk as if this were a new experience altogether, but it is not so. The letters of Disraeli written about the year 1837 show a similar state of matters with much damage to the plans and convenience of public men.

THE REMOVAL OF ADENOIDS IN INFANCY.

FORTUNATELY post-nasal adenoids when they are present in young infants do not commonly give rise to troublesome symptoms There are exceptions to this rule, however, and one such is quoted by the *Journal de Clinique et de Thérapeutique Infantiles* of Feb. 23rd. In this case the child was aged four months. He had suffered at birth from purulent ophthalmia, a fact which may partially explain the urgency of his adenoid disorder. During sleep his breathing was so difficult that Dr. Thomas who has reported the case found himself obliged to resort to surgical treatment for its relief. The result was successful. The mode of procedure adopted is interesting as bearing upon the performance of an operation requiring some delicacy of manipulation. As was to be expected, a small, specially constructed forceps was employed and a piece of vegetation was detached by a single effort, no more being done on each occasion. The process was repeated at intervals of a week and after three sittings the nasopharynx was clear. In order to avoid injuring the vomer—the chief danger to be guarded against—particular care was taken to direct the forceps upward and backward. In most cases of adenoid overgrowth in infancy medical treatment happily suffices to relieve symptoms and postpone the need of operation. Dr. Thomas's experience is suggestive in connexion with those rare cases which call for active surgical measures as proving what may be accomplished by patience, tact, and gentleness.

THE NEW SCHOOL BUILDINGS OF MIDDLESEX HOSPITAL.

SIR CHARLES BELL in 1836 wrote: "We have founded a school in the garden of the Middlesex Hospital. The building will be a complete little thing. ...... You cannot imagine a prettier thing than that school." What would he say if he could see the new buildings of the school to which his name did so much honour? These consist of two blocks, one facing the hospital garden and the other facing Union-street. On the ground-floor of the first block a vestibule leads into a room for instruction in public health and a room for the official work of the school, while it also opens into the large lecture-room and the museum. From this vestibule another door opens into a series of rooms for chemistry; a large laboratory, a lecture-room, and a private room for demonstrators or lecturers beyond. The laboratory (for organic and inorganic chemistry and for sanitation work) will accommodate 35 students; the lecture-room will hold 50. On the first-floor are the pathological rooms; a very large laboratory for general practical work, and for lectures, a bacteriological laboratory for advanced or research work, and the pathologist's private room; beyond this a suite of rooms communicates with the post-mortem room. The mezzanine floor contains the anatomist's room and a dark room for photographic work. The anatomical rooms, three in number, are in the basement and are connected by an electric lift with the dissecting room on the top floor. The dissecting room, 75 feet long, is warmed with hot water, ventilated with electric fans, and lit from above and also by moveable pendants of electric light. The floor is of terrazza stone, the tables are of glass, and the walls are panelled with slate for diagrams. On the same floor are the demonstrator's private room and a large room for the practice of operative surgery. The Union-street building is given over to physiology. On the ground-floor are three rooms, one for making quantitative analyses, another for independent work, and a third large room for general class purposes. On the first floor there is a very large room for practical work and the physiologist's private room, containing a small dynamo, whence a shaft will run the whole length of the workroom, supplying motor power to revolving cylinders. Briefly, it would be difficult to devise a better set of buildings for their purpose. Every detail has been thought out, every latest improvement has been added to make them as perfect as possible. It may be mentioned that in connexion with the inauguration of the new buildings Dr. Frederic Hetley, J.P., D.L., a former student, has generously contributed the sum of £1000 to perpetuate the "Hetley Clinical Prize" of £25 per annum founded in 1884.

EARLY DIAGNOSIS OF CANCER OF THE LUNG BY MICROSCOPICAL EXAMINATION OF THE SPUTUM.

AT the meeting of the Société Médicale des Hôpitaux on Jan. 13th M. Paul Claisse called attention to this means of diagnosis. A man, aged 50 years, habitually in excellent health, began to waste. One day he expectorated two little greyish-white fragments almost of the size of a cherry-stone and with irregular surfaces. Examination of a section showed epithelial tissue composed of unequal elements, in places cubical, in others arranged concentrically like epidermic nodules. It was concluded that the fragment was of pulmonary origin and epitheliomatous. At this time no signs of disease could be found in the lungs. After several weeks the diagnosis was confirmed, in particular by the appearance of currant-jelly expectoration. In a second case in which the diagnosis was already certain the fragments were too small or too necrosed for thorough examination, but their presence at least showed that they belonged to a pathological tissue. M. Claisse pointed out that without systematic search the fragments might escape observation and be mistaken for inflammatory or alimentary products. As the diagnosis of pulmonary cancer is often difficult at the beginning this means of diagnosis is valuable.

HETEROCHROMOUS EYES.

"IN a family I am attending," writes a correspondent, "there are three children. In the eldest and youngest (who are boys) the right eye is hazel and the left eye blue. In the second child (who is a girl) the right eye is blue and the left hazel. The father has blue eyes and the mother has hazel eyes." The condition recorded is uncommon but not extremely rare. Two forms of heterochromia are recognised by ophthalmologists—one, in which one eye only is parti-coloured, a segment of the iris being of one colour and the remainder of another colour, a condition named "heterochromia unilateralis"; the other, in which as in this case the iris of one eye is different in colour from that of the other, named "heterochromia bilateralis." The dark colour of the iris in the southern nations and in the yellow races, as in the Chinese, is due to pigment in the superficial cells and in the cells of the stroma. The blue iris chiefly observed in the northern nations is due to the absence of pigment. Very dark irides are seen in the descendants of the Jutes in the Isle of Wight and, according to MM. Truc and Vallude, in Bristol and in Hainault in Belgium, whilst the blue iris is not unfrequent in Upper Italy, amongst the Basques, and even exceptionally in Morocco and Tunis. In France Topinard recognises two zones, the north-east with light-coloured or blue irides, and the south-west with brown eyes. It is not correct to say that all infants' eyes are grey at birth. We have seen them of a very dark colour. It has been thought that eyes presenting a difference in colour in their irides are not perfectly developed and that any operation upon them should be undertaken with some hesitation and reserve, but it does not appear that there are any statistics bearing upon the question. *The influence of heredity* on the colour of the eyes has been shown to be marked. When both parents have blue eyes, or both parents dark eyes, about 95 per cent. of the offspring have irides of corresponding colour, but when one parent has blue and the other dark irides the number of dark and light irides in the children is about equal.

SCHOOL EDUCATION AND NEEDLESS INJURY TO CHILDREN.

WE have received a copy of an address on the above subject delivered by Dr. Clement Dukes before the meeting of headmasters held in London on Jan. 13th and 14th of the present year. It is a powerful indictment of the abominable cast-iron system of present education. It is not the great public schools such as Westminster, Winchester, and Eton which are so much at fault as Board schools and so-called voluntary schools. "This," says Dr. Dukes, "is what prevails. In the 'infant schools' where the ages range from three to seven years the morning hours of work occupy from nine to 12 with a break of a quarter of an hour; and the afternoon lessons from two to four. ...... Children of three years of age are kept at lessons indoors five hours a day *for five days* a week." Attendance is not compulsory before the age of five years, but yet "schoolroom and teacher are provided ...... and attendance is courted for the sake of the Government grant." We have no hesitation in saying that the system is extravagant, cruel, inefficient, and hurtful to the health of the coming generation. In addition, far too many subjects are taught. Years ago Kingsley wrote as follows concerning the turnip in the Examination Island: "Can you tell me anything at all about anything you like?" "About what?" says Tom. "About anything you like, for as fast as I learn things I forget them again, so my mamma says that my intellect is not adapted for methodic science and says that I must go in for general information." We commend this passage to the Education Department.

LARGE FRAGMENTS OF AN EPITHELIOMA OF THE STOMACH EXPELLED BY VOMITING.

THE size of the fragments expelled in the following case, related by M. Mathieu at a recent meeting of the Société Médicale des Hôpitaux, is remarkable. Microscopic examination often enables the diagnosis of cancer of the stomach to be made by the detection of *epitheliomatous structure*; more rarely fragments are recognisable by the naked eye. A man, aged 58 years, had increasing dyspeptic symptoms for six months. Appetite disappeared and he lost 30 lb. in weight. He had acute pains in the pit of the stomach and abundant vomiting. In the vomited matter the food taken on the previous day or on the day before that was recognised. The vomiting had ceased for six or seven weeks when with a small quantity of the gastric contents he expelled some hard masses. On examination a rounded tumour was found a little below the xiphoid cartilage. The fragments after lying eight days in alcohol consisted of three whitish-yellow masses marbled with reddish purple from infiltrated blood. They were elastic and had a fibrous structure. They showed traces of rupture and where entire little mammillated projections. The largest fragment was two inches in length and a third of an inch in diameter. It had the appearance of an adenomatous or epitheliomatous vegetation torn away at the hilum. The three fragments together weighed two drachms. Microscopic examination showed areolæ separated by connective tissue and lined with cylindrical epithelium—in short, almost the structure of a polyadenoma or cylindrical epithelioma. As the patient had for some time vomiting denoting dilatation of the stomach with stasis, and as this vomiting disappeared, the question arose, Might not the separation of such vegetations have caused disappearance of the stenosis of the pyloric orifice? In analogous conditions signs of pyloric insufficiency have been seen to succeed those of stenosis. A somewhat similar case was reported by Dr. W. O'Neill in THE LANCET of Oct. 3rd, 1896, in which the weight of vomited cancerous tissue was between eight and 10 ounces.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

AT the annual general meeting of the society held on March 1st, the President, Mr. Thomas Bryant, being in the chair, the report of the council, showing a satisfactory financial position, was presented. The unusually large number of 35 new Fellows had joined the society. The President delivered the annual address and according to custom gave short biographies of those Fellows who had died during the year, dwelling with especial fulness on the careers of Sir Richard Quain, Dr. Charles West, Mr. Henry Lee, Sir William Jenner, Dr. C. J. Hare, and Professor Kanthack, and a hearty vote of thanks was awarded to him. A cordial vote of thanks was also given to Dr. Norman Moore who is retiring from the post of honorary secretary, after having held it for three years. The following gentlemen were elected to hold office for the ensuing year:—President: Mr. Thomas Bryant. Vice-Presidents: Dr. George Fielding Blandford, Dr. Samuel Jones Gee, Mr. Henry Greenway Howse, and Mr. Reginald Harrison. Honorary Treasurers: Dr. William Selby Church and Mr. J. Warrington Haward. Honorary Secretaries: Dr. Thomas Barlow and Mr. Alfred Pearce Gould. Honorary Librarians: Dr. Norman Moore and Mr. Rickman J. Godlee. Members of Council: Dr. Francis Henry Champneys, Dr. Stephen Mackenzie, Dr. Seymour John Sharkey, Dr. Eustace Smith, Dr. Francis Warner, Mr. W. Bruce Clarke, Mr. George Henry Makins, Mr. Robert William Parker, Professor Edward Albert Schäfer, F.R.S., and Mr. Edgcombe Venning.

PLAGUE IN MADAGASCAR.

THE circumstances of the occurrence of plague in Madagascar are described in much detail in a first report compiled by Dr. Lidin, presented to the Governor-General, and published in the *Journal Officiel de Madagascar et Dépendances* of date Jan. 10th, where it occupies a space exceeding five pages of THE LANCET. Dr. Lidin, who is principal medical officer with the army of occupation, states that on Nov. 23rd, 1898, the Administrator of Tamatave was informed by Dr. Chevreau (a civilian practitioner) that several suspicious deaths had taken place among natives employed by his European patients. Next morning Dr. Sallebert of the military hospital, after an examination of patients and of some dead bodies, pronounced them to be cases of plague and on Nov. 26th Dr. Clouard found the plague bacillus in abundance. Quarantine was immediately established. Tamatave is a seaport; the habits of the population who number about 7000 are extremely insanitary. Evidently the disease had existed for some time before it was recognised by Dr. Chevreau; Dr. Lidin considers that its origin must be dated back for six weeks at least, but perhaps not much more, and that it was imported by means of bags of rice brought from India. Infection from one person to another was at first not well marked, for it often happened that a death in a cottage occupied by several persons was not followed by other cases among the survivors; after a time, however, attacks occurred the origin of which could not be traced and the disease became generalised. From Nov. 24th to Dec. 14th there were 114 cases discovered, including only three Europeans, and during the same period there were 73 deaths. The European patients were a lady who gave birth to a child during her illness, a sailor in indifferent health, and an elderly German governess. The last died, the two others recovered. Other parts of the *Journal* give the later information that on Jan. 6th there were three fresh cases with three deaths, and on Jan. 7th six fresh cases with six deaths. On Dec. 31st the Governor-General issued an order directing that all possible steps should be taken to destroy rats and mice by trapping them or by laying down phosphorus, arsenic, or strychnia mixed with breadcrumbs, meat, cheese, or fried bacon. Fleas also were to be destroyed by watering the floors with boiling water or solution of corrosive sublimate, or by applying wax mixed with petroleum. Personal cleanliness and general hygienic measures were also specially enjoined.

PARALYSIS FOLLOWING CEREBRO-SPINAL MENINGITIS.

IN the *Boston Medical and Surgical Journal* of Feb. 16th Dr. W. N. Bullard calls attention to certain forms of paralysis occurring during cerebro-spinal meningitis and persisting after the acute stage of the disease. They differ from the ordinary forms and do not entirely correspond to other forms which are described. All the cases occurred in children. In certain stages they resembled cases of anterior poliomyelitis, but they differed in the following respects. Pain on passive movements persisted to a degree rarely if ever found in anterior poliomyelitis. Such pain and tenderness may exist during the acute stage of the latter for two or three days, but if it lasts longer than a week the diagnosis is to be questioned. On the other hand, not uncommonly in cerebro-spinal meningitis great pain on passive movement, especially of the ankles, may exist two or more months after the acute stage. Tenderness of the muscles also persists longer. There is always a tendency to spastic contracture. The knee-jerk on the whole is less affected, but it may be abolished. In addition to these signs the history of the attack is a guide.

THE ROYAL MEDICAL BENEVOLENT COLLEGE, EPSOM.

BOTH the educational and benevolent sides of the work that is carried on at Epsom College have always received from us our best support, for we not only know the measure of good that is done but we realise the enormous extent of the good which might be done if anything like adequate assistance or the assistance that might be expected were received from the medical profession and the public. To add in some way, however small, to the success of the Royal Medical Benevolent College at Epsom is, in our opinion, something like a duty incumbent upon every medical man. Those to whom the act of contributing is no burden should give freely for the good of their poorer brethren and these should give what they can. No man can certainly foresee and guard against all the insidious attacks of misfortune or gauge how soon those near and dear to him and dependent upon him may need the helping hand which this institution extends to both widow and children. We feel sure that the lack of support of the College by medical men as a whole, which we have often had to deplore, is not due to apathy alone but partly to the fact that the profession realises neither the good which the College already does nor its potentialities for better things if it were adequately supported. If medical men appreciated the work at Epsom at its *proper* worth they would support the College more generously themselves and would take advantage of their many opportunities of bring to the notice of their wealthy patients the claims which the institution has upon the public. As a correspondent in another column pertinently asks: "How many practitioners sacrifice their lives in the service of the public before they have had time to save?" If laymen understood how large this number is we do not believe they would be slow in their attempts to repay their benefactors. Dr. Holman, the honorary treasurer, is asking for aid in collecting the £6000 which he has to find each year for the Council to spend on the aged pensioners and foundation scholars. "If each member of the medical profession," to use the words of a former appeal, "would send 10*s*. to the hon. treasurer or even 5*s*. a year for a few years the position of the pensioners and foundation scholars would be placed on a secure financial basis and the council would be able to improve the school and extend its useful influence still more." Who among the poorest in our profession could not give just a trifle, and how many are there who would miss 10*s*. or even more?

Dr. W. H. Corfield, medical officer of health of St. *George's*, Hanover-square, has written to his vestry pointing out that while for several years (with the exception of 1897) there have been more cases of enteric fever in the parish per month during November and December than during the preceding three months, and while this disease has been unusually prevalent and fatal in London during the last three months, November, December, and January are not the months for the "seasonal prevalence" of this disease. Dr. Corfield thinks, therefore, that some other cause for the excess of it must be sought for and it may be something more than a coincidence that in those very months London is supplied with water which, according to Sir Edward Frankland's report, contains "an excess of organic matter."

The next examination for the certificates in nursing and attending on the insane issued under the auspices of the Medico-Psychological Association of Great Britain and Ireland will be held *on Monday, May 1st*, 1899. Candidates should obtain from the Registrar (Dr. Spence, Burntwood Asylum, near Lichfield) a *schedule, to* be filled up, signed, and returned to him at least four weeks before the date of the examination. Monday, April 3rd, will be the last day upon which, according to the rules, candidates can enter their names for the May examination.

We have again to congratulate University College, Liverpool, upon noble accessions to its funds. At a complimentary banquet at the town-hall to Professor Oliver Lodge, in recognition of his having received the Rumford medal of the Royal Society for 1898, Principal Glazebrook was able to announce donations of over £15,000 towards the estimated sum of £30,000 required to equip a proper physical laboratory for Professor Lodge.

The Senatus Academicus of Edinburgh University have resolved to confer the honorary degree of LL.D. upon William Mitchell Banks, M.D. Edin., F.R.C.S. Eng., Professor of Anatomy in University College, Liverpool.

Mr. Alfred Cooper, who has been on the active staff of St. Mark's Hospital for upwards of 34 years, has been elected honorary consulting surgeon on his retiring *from the position* of surgeon.

Mr. F. G. Parsons, F.R.C.S. Eng., delivered a course of three lectures upon the Joints of Mammals compared with those of Man at the Royal College of Surgeons of England, the dates of delivery being March 6th, 8th, and 10th. In the first lecture the temporo-maxillary articulation, together with those of the shoulder girdle, were dealt with, and in the second the joints of the elbow, wrist, and hip.

The Senatus *Academicus of Aberdeen University* have resolved to confer the honorary degree of LL.D. upon James *Frederick Goodhart*, M.D. Aberd., F.R.C.P. Lond., consulting physician to Guy's Hospital; Charles Stewart, M.R.C.S. Eng., F.R.S., Conservator of the Museum of the Royal College of Surgeons of England; and George Frederick Stout, M.A., Lecturer on Comparative Physiology in Aberdeen University.

The Brighton Town Council decided without dissent at their last meeting on the unanimous recommendation of the sanitary committee to increase the salary of Dr. Newsholme, medical officer of health, from £800 to £1000, which shows that the Brighton Town Council appreciate two good things—a clean public health bill and a medical officer who knows how to keep it clean.

At a meeting of the weekly board of St. George's Hospital held on Wednesday, March 8th, it was unanimously resolved, on the recommendation of the medical staff, that in future contracts for milk a clause should be inserted providing that milk should be supplied only from animals which have been duly certified to be free from tubercle.

Mr. Frederick Treves, consulting surgeon *to* the London Hospital, has been appointed an Emeritus Professor of Surgery to the London Hospital and will give a course of lectures in clinical surgery in the winter session. The special subjects and dates will be announced in due course.

We understand that owing to the lamented death of Professor Kanthack a session of the Summer School of Medicine at Cambridge cannot be held this year as was intended. It is hoped that arrangements may be made to hold another session in 1900.

Professor Burdon Sanderson, F.R.S., Professor of Medicine in Oxford University, will give the Croonian Lecture before the Royal Society on *Thursday*, March 16th. The subject will be the Electrical Concomitants of Motion in Plants and Animals.

The death is announced of Mr. Francis Nottidge Macnamara, M.D. St. And., M.R.C.S. Eng., at the age of 67 years. Deceased was formerly in the service of the Honourable East India Company and was a prominent authority upon tropical medicine.

The Council of the British Association have nominated Sir William Turner, President of the General Medical Council and Professor of Anatomy in the University of Edinburgh, to be President of the Association when it *meets in* Bradford next year.

The annual dinner of the Medical Society of London was held on Wednesday last, March 8th. The unfortunate indisposition of our representative prevents us from giving a full report this week.

The late Professor Rutherford has bequeathed to Edinburgh University his valuable medical library and his physiological and microscopical specimens and diagrams.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE fifty sixth sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Feb 28th The Commissioners present were the Chairman (Lord Llandaff), the Right Hon J. W. Mellor, Sir John Dorington, Mr de Bock Porter, Mr Robert Lewis, and Major-General Scott The witnesses examined were Mr Henry Gill (secretary of the Chelsea Water Company), the Right Hon Sir William Hart Dyke, Bart , M P. (chairman of the Kent Waterworks Company), and Mr Alexander Dickson (secretary of the Kent Company)

At the commencement of the sitting Mr RICHARDS, on behalf of the Chelsea Company, said that the secretary had searched the minute books and had found entries as to the arrangements which had been made between the Chelsea Company and the other metropolitan companies which were authorised to supply parts of the district within the statutory limits of that company

Mr GILL said that the minute books were very voluminous, but that he had found a transcript of the whole history of the negotiations which had been entered into between the Chelsea Company and the New River, the Grand Junction, and the West Middlesex Companies with regard to the partition of the areas These particulars, we believe, have not hitherto been published The extracts which were taken from the minute books were rather lengthy, and it may be sufficient to state that ultimately, after some preliminary skirmishing, a complete arrangement was made and signed by the directors of the boards of the companies interested and it was decided that a formal agreement should be prepared It did not, however, appear that any binding legal document had been entered into and Mr POPE, Q C , pointed out that in the report of the Parliamentary Committee which inquired into the London water supply in the year 1821 it was alleged that no formal agreement had been made with regard to the abolition of competition between the companies

The witness put in a statement showing the average supply per head per day in 11 of the districts in which Deacon s water meters are in use From this table it appeared that a considerable reduction had been made in the amount supplied since Deacon s meters had been used For example, in one district the average amount per head was reduced from 25 7 to 18 gallons per head daily and in another district from 39 5 to 19 5 gallons daily

In answer to Mr MELLOR the witness said that he attributed most of the waste which had formerly taken place to defects in the fittings of the customers of the company It did occasionally happen in times of frost that taps were allowed to run, but undoubtedly most of the waste was due to leakage of the taps It was possible to have fittings which were absolutely tight but the time which they lasted in a sound condition depended partly on the quality of the fittings, partly on the amount of use which they had, and very greatly on the manner in which they were used The districts in which the reduction had taken place contained a large number of new houses and the saving which had been made in consequence of a thorough examination of fittings had been very great

In answer to Mr MELLOR the witness said that the company had not yet introduced the Deacon meters into all parts of their district, but they were now trying them in places in which there were a large number of old houses

Sir JOHN DORINGTON pointed out that one of the witnesses had told them that it was cheaper to pump a sufficient amount of water to make up for the waste than it was to introduce a thorough method of inspection, and Mr POPE Q C , pointed out that in Glasgow they had never adopted Deacon's meters because they had an unfailing abundance of water, but of course where the supply was limited it was important that waste should be checked The supply to Glasgow was given by gravitation and the amount was practically unlimited

In answer to Mr MELLOR the witness said that they made an extra charge for automatic flushing tanks and the charge was calculated at the rate of 1s per 1000 gallons This charge was made even in the case of heavily rated houses for they found that in some cases tanks were emptied every hour and that an enormous amount of water "was wasted" in this way.

In answer to Mr MELLOR, the witness said that he did not think there was any necessity for these large tanks and that the frequent flushing was a modern sanitary requirement

Mr POPE on behalf of some of the metropolitan water companies called it "a modern fad"

The CHAIRMAN said that he was quite startled at the results which had been attained by the use of Deacon's meters but Mr PEMBER pointed out that even more striking results had been obtained at Oxford and at other places, and Mr LITTLER, Q C , stated that at Norwich the water supply had been reduced to 15 gallons per head daily.

Sir WILLIAM HART DYKE said that the customers of the Kent Company did not complain either of the quantity or of the quality of the water supplied by the company in which he was interested The Kent local authorities had been content to leave the supply in the hands of the company No effort had been made by any local authority under the Public Health Act to carry out a water supply for themselves At one time the local authority of Woolwich had a scheme but it was not put into operation, it was handed over to the Kent Company

In answer to the CHAIRMAN the witness said that he had heard nothing of any strong public sentiment in Kent to the effect that people wished to have the water supply in the hands of "representatives of the people"

The CHAIRMAN asked the witness to state his views with regard to the purchase of the undertakings of the Kent Company by some public authority The witness said that as representing a large industrial business it of course went without saying that the Kent Company did not wish to be disturbed, but should Parliament decide otherwise they would of course have to submit He did not contend that under no possible circumstances should a scheme of purchase be initiated Strong language did not help an argument, but he ventured to submit that purchase should be the last possible resort In saying this he spoke not only on behalf of the company but on behalf of the consumers and of the public For example, in the case of the Kent Company he thought that they had presiding over the destinies of the company a representative and strong directorate, a strong body composed not only of business men but of representative men, men who lived on the spot and who were connected with the interests of the consumers and with the county of Kent This body presided over a district of 187 square miles, including something like one fifth of the metropolitan area They had on their board a representative man, the Member of Parliament for a large constituency—that of Lewisham, a place situated right in the centre of their area of supply, a large and increasing district—a man whose name was a household word in the engineering world, one who had great experience in all matters concerning water supply who apart from his representative capacity, possessed a knowledge of engineering which was useful in examining estimates and in directing work of that sort in which special knowledge was useful Again, they had on their board Mr Henry Fowler, who had held high office in the State and who had been connected from his boyhood with municipal life The Lord Lieutenant of the county was also on their board The witness himself represented 16 000 electors in the county of Kent and these gentlemen would probably wish to know the reason at the next election should any failure take place in their water supply and, for his own part, he was determined as long as he held his position not to allow his political opponents the luxury of any solid criticisms with regard to the water supply of Kent

The CHAIRMAN asked the witness whether there was any sort of control which he could suggest which would be advisable It had been suggested that extensive pumping from the chalk was injuring private wells The witness said it was true that that suggestion had been made

The CHAIRMAN asked whether there would be any objection to have the wells gauged and the rest level taken and information of that sort given to the public The witness replied that in his opinion neither the company nor any other corporate body would lose by giving the fullest information to the public whenever there was a strong public grievance He would be opposed to too close supervision of their works or anything harassing to their engineers, but with regard to information to the public which they had a right to demand with reference to the question of lessening water in the rivers he thought the public ought to have it and he went so far as to say that they must have all reasonable information given to them.

The Chairman asked the witness whether he thought that the management would be as efficient and as economical in the hands of a public authority as it was at present, and the witness replied that it was possible that men might be found in the county who would be able to manage the undertaking of the Kent Company, but in his opinion there must necessarily be a loss to the consumers in the disturbance of what is good in regard to that management of to-day. For example, they had followed a fixed policy from year to year with regard to their future supply. Day by day and week by week the policy of the Board had been to look forward and to keep steadily in advance of the immediate needs of their customers. It was surely better to have men to manage such a business who had been all their lives at the work, who were connected with the district, who knew it by heart, who knew every pipe and every main in the district, as their engineer did, than to have new men embarking upon such a work. If they took away a man who knew it all by heart and put another man in his place whatever his abilities might be the water consumers would be the losers for years.

Mr. Mellor suggested that the purchasing authorities would employ the same engineer. The witness said that in that case it would be the same administration minus directors.

In answer to the Chairman the witness said that the Kent Company stood in an exceptional position with regard to the water—they were self-contained and independent.

The Chairman asked whether the Kent Company would be injured if some public authority bought up the other companies and left the Kent Company intact. The witness replied that there would be a difficulty with regard to their pumping stations, of which there were eight at present and a ninth in course of completion. Of these stations only two were in the metropolitan area.

The Chairman remarked that the undertaking was a large one and asked whether it would be in any way injured if it were left out of any scheme or purchase and continued to supply the same intra- and extra-metropolitan districts as it supplied at present. The witness replied that he thought that this would do no injury to the Kent Company.

Mr. Alexander Dickson in answer to the Chairman said that if it were necessary that a transfer of the Kent Company's undertakings should take place he thought it should be done either by agreement or by arbitration under the Lands Clauses Act. In the course of his examination the witness put in a table giving a summary of the increases and decreases of water rates upon alterations in the rateable values by the local authorities for the ten years 1887 to 1896. A table was also given showing that the increase in the rate valuation list totals was largely due to increases in the assessments of public companies. It was seen from these tables that in the seven larger metropolitan parishes of the company's district while the total increase upon the rate valuation of all properties amounted to £90,915 no less than £84,365 of this sum arose from the increased assessment on the properties of the public companies, the companies being railway, gas, water, and tramway companies.

The fifty-seventh sitting of the Royal Commissioners was held at the Guildhall, Westminster, on March 6th. The Commissioners present were Lord Llandaff (the chairman) Sir John Dorington, Mr. de Bock Porter, Mr. Cripps, Q.C., Mr. Robert Lewis, and Major-General Scott. The witnesses examined were Mr. Alexander Dickson, Sir Frederick Dixon-Hartland, Bart., M.P. (chairman of the Thames Conservancy Board), and Sir Edward Frankland, K.C.B., F.R.S. (water analyst to the Local Government Board).

Mr. Dickson in answer to the Chairman said that the existing sources of supply and the present pumping capacities of the Kent Company allowed them to distribute 16,250,000 gallons of water daily. Of this amount 4,000,000 gallons were supplied to the districts outside London. Within the county of London the company could obtain from 8,750,000 gallons daily, but they distributed 12,000,000 gallons. The sources of supply outside the London district were, therefore, more than sufficient for the rural parts of Kent, whereas the sources of supply inside the county of London were less than the amount needed for the supply of the metropolitan part of the company's district. This fact would cause a difficulty in case of any severance of the company's supplies between the county of Kent and the London district. The rural authorities in the county of Kent had not exercised the powers which they possessed under the Public Health Act but were content to be supplied by the Kent Company. The history of the company showed a gradual extension, new districts having been added to the company's area at the request of the rural authorities concerned. (The history of these extensions has already been given in The Lancet of April 3rd, 1897, p. 976.) The Sevenoaks Sanitary Authority had requested the company to supply water to a part of their district and Kent had, in fact, shown "anti-municipal" water tendencies. The county as a whole had been in favour of the unification of the water-supply in the hands of the company. Very few complaints were received from the customers and it was always found that any complaint with regard to the quality of the water was due to the arrangements in the consumer's own house. For example, a complaint had lately been received from Blackheath with regard to the quality of the water. An inspector of the company called on the morning on which the complaint was received and found that a starling in an advanced state of decomposition was contaminating the cistern which was placed in the roof of the customer's house. All the complaints which they received were due to local and accidental circumstances of this kind.

In answer to the Chairman the witness said that the different parts of the district were connected by mains which enabled them to supply water from one district to another so that in the case of a breakdown assistance could immediately be obtained. A case occurred, for example, in 1898 in which an accident befel the pumps at Wilmington and a supply to that district was sent from other stations. With regard to the rest-levels of the wells the witness said that the company would have no objection to giving any information which was required by the Local Government Board but he did not think that they should give that information to private individuals because their business might be thereby prejudiced.

In answer to Major-General Scott the witness said that as an instance of this a private individual might start a brewery near a successful well which was in the possession of the company. He thought that the company ought to be able to obtain all the water which they required for the supply of the inhabitants of their district even possibly at the cost of draining the wells of all their neighbours. At the present time the average daily supply was 16,000,000 gallons and the maximum last year amounted to 21,750,000 gallons. They could, however, obtain 25,000,000 gallons daily with their present pumping power. The witness contradicted an assertion made by Mr. Cripps, one of the witnesses employed by the London County Council, who stated that the total possible yield daily in the Kent Company's area was 27,500,000 gallons. The witness put in a large number of statements relating to the present condition of the company. These included a full account of the pumping mains and of the service mains, statistics of the daily supply from the year 1839 downwards, and tables relating to financial matters. The witness said that the company had never entered into competition with any other water company. When the Kent Company was started they were compelled to buy up the rights of an existing company. Their water rents for part of their district were secured under Letters Patent which gave them the exclusive right of supplying water for a period of 500 years within the manors of Sayes Court and East Greenwich.[1] The charter giving these rights was secured by the Kent Company and is held by them to-day. It followed, therefore, that no competition could take place in these districts without an infringement of those Letters Patent.

With regard to the cost of collecting the water rents the witness said that some of the collectors obtained 3 per cent. and some 2½ per cent. In the case of some of the older collectors who were unable to do much work from advancing years the company reduced the extent of their work and gave an additional commission. This amounted to a superannuation payment. The normal rate of commission was 3 per cent., which the witness suggested might be compared with that of the Liverpool outside districts in which 4 per cent. was allowed to the rate collectors. In the case of purchase by the London County Council the witness thought it would be necessary for that body to have a staff of collectors, because a considerable amount of the water rents received were for supplies given by meter or for some special purpose, and in each case there was a proper charge and each demand had to be made out separately.

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[1] The date of the charter is 1701.

In answer to SIR JOHN DORINGTON the witness pointed out that Sir Alexander Binnie, one of the witnesses employed by the London County Council, had made a mistake in the evidence which he gave with regard to the water rents charged at Bradford. The charges for the domestic supplies in Bradford are charged upon the gross value. The incidence of the charges levied at Bradford is therefore different from that in London.

In answer to the CHAIRMAN, the witness said that should it be necessary for the company to raise more capital he thought the sinking fund which was imposed with a view to the immediate purchase of the undertakings by some one body ought in fairness to be discontinued. It would not be fair that the customers in the rural parts of Kent should be prejudiced by a sinking fund which would prevent the company from realising the surplus profits which would lead to a lowering of the water rentals, for the money handed over to the Chamberlain of the City of London under the sinking fund clause would not be applied for the benefit of the people of Kent.

Mr. BALFOUR BROWNE, on behalf of the London County Council, proposed to call Mr. Howard Martin, a gentleman from Croydon, to contradict some of the evidence lately given by Mr. Wilkins, secretary of the Lambeth Company.

Mr. PEMBER, Q C, interposed and stated that Mr. Wilkins had made mistakes in some of the evidence which he had given As a matter of fact the lower charges for water which had been made in Croydon began in July, 1894, and the Lambeth Company had received complaints both as to the quantity and as to the quality of the water which they had supplied. Mr. Wilkins had also forgotten that subsequently in the month of October there was a meeting between the engineer of the Corporation of Croydon and the engineer of the Lambeth Company and that an arrangement had taken place to the effect that if the Lambeth Company maintained the reduction in the water rents the Corporation of Croydon would not interfere with the Lambeth Company in that part of the district in which they had already laid their mains. Mr. Pember therefore admitted that in consequence of what "might be called" fear of competition the water rents had been lowered by the Lambeth Company.

Mr. BALFOUR BROWNE pointed out that Mr. Martin was prepared to contradict a statement made by Mr. Wilkins that the Lambeth Company had taken from the Croydon Corporation the supply of 69 houses, and he pointed out that the fact was that a supply was not given by the Croydon Corporation on the undertaking that the water rents should be kept at the present level The Lambeth Company agreed to maintain the reduction of rents, and therefore the Croydon Corporation had not interfered with the supply. Mr. Balfour Browne added that Mr. Martin was also prepared to prove that the Croydon Corporation was not, as Mr. Wilkins had said, "at the end of their tether" with regard to water-supply. They had water from a new source, and though it was true at one time that they had warned their customers to be careful of their water they had never been really short, and they were now making provision for a future supply in large quantities. As Mr. Wilkins had withdrawn everything which he had said with regard to Croydon it was not necessary for him to call the witness who was ready to give evidence.

Sir FREDERICK DIXON-HARTLAND, in answer to the Chairman, said that the Thames Conservators had no objection to the water companies taking their authorised supply upon an average of six months instead of upon a daily average if it were done in such a way that the Conservators had command of the water, so that it should not happen that a small quantity only was taken when the river was full and a large quantity was taken when the river was empty The Thames Conservators were primarily a navigation authority and their great duty was to keep the channel of the river in a proper state. At one time during the summer of 1898 only 43,000,000 gallons passed in a day over Teddington Weir. This was a great disadvantage to navigation. The Conservators were afraid that if the companies were allowed to tak

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The CHAIRMAN said that it seemed ridiculous that millions of gallons of water should go down the Thames and that a sufficient amount should not be taken when the water was plentiful. The witness pointed out that the difficulty which the Conservators had was that the metropolitan water companies wished to take the water when there was only a very small quantity in the river. The Conservators wished to have powers of restriction so that the flow of the river should not be reduced below a certain amount, and they thought that a heavy penalty should be imposed if water were taken from the river by the water companies should they abstract more than they ought in a dry season. The witness said that it was possible to get an injunction from a vacation judge but it was not so easy as when the courts were sitting.

In answer to Sir JOHN DORINGTON the witness said that he adhered to the evidence given by one of the officers of the Board to the effect that the flow over Teddington Weir should be not less than 200,000,000 gallons daily and that all the members of the Board agreed to that estimate.

In answer to Mr. DE BOCK PORTER the witness said that they wished that amount to be an irreducible minimum unless the amount were reduced below it by nature. The Conservators wished the metropolitan water companies to increase the storage capacity of their reservoirs. At the present time the capacity was insufficient. The storage capacity of the water companies ought to be sufficient for a 90 days' supply.

In answer to Major-General SCOTT the witness said that at present the water companies had statutory power to take 130,000,000 gallons daily without reference to the amount of the flow of the river. The Conservators felt strongly that their duty was to look after the navigation of the river and they objected to have their Acts put on one side. They might be content that the water companies should take in a time of drought any amount of water short of that necessary for navigation.

QUACKS AND ABORTION:

A CRITICAL AND ANALYTICAL INQUIRY.

VII.[1]

IN THE LANCET of Feb. 25th we stated that a very large number of London and provincial newspapers continue to publish the advertisements of persons professing to sell abortifacients and that many of these are the advertisements of those persons from whom we purchased the pills and potions upon which we founded our series of articles under this heading. It is almost inconceivable that the editors and proprietors of newspapers should be unaware of the purport of these advertisements after the revelations made in the course of the prosecution of the Chrimes brothers and after the full analysis that we published of the wares and literature of this infamous trade. Many, indeed, may have doubted our statement as to the continuing of the traffic in these medicines, varying, as we showed them to vary, from full doses of savin to harmless aperients, but all sold as competent to remove the most "obstinate obstructions" to the menstrual flow, one of the compounds of savin, sold by a Birmingham chemist named Ottey, being boldly characterised by him as strong enough to "shift anything." It will be remembered that we quoted the case of Owen v. Greenberg to show that the advertising agent or editor who has contracted to insert such advertisements cannot be compelled to do so, but even the advertisements of Owen (or Allen or the Irristum Company) continue to appear. In order that there may be no question of the wide dissemination of the advertisements or of the accuracy of our own statements with regard to it we give below a list of newspapers in which advertisements have appeared during or since the month of February either of persons whose trade we have discussed in these articles (in which case we give the name of the advertiser referred to) or whose advertisements are so worded that pregnant women are likely to purchase their medicines for

they are in fact of an abor

or of persons whose trade pa

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[1] Articles I, II, III, IV., V, and

of Dec. 10th, 17th, 24th, and 31st,

1899, respectively

objectionable character that no advertisements of their goods should, in our view, have been inserted without full inquiry on behalf of the newspaper in question. We note that some of the worst advertisers at times modify their usual form of advertisement; possibly this may have been done to meet the views of the editors of individual journals. In this case we are of opinion that an editor on whom an objectionable or criminal advertisement is sought to be planted ought to reject it entirely and not insert it in an emasculated form, because, however disguised, it can only be intended as a means of putting the quack, whether a would-be abortionist or ordinary swindler, in communication with his victim. Among advertisements of which we note the occasional modification are those of Madame Frain who at times professes that her preparations are "purely medicinal and not of use for any unlawful purpose." As we were not able to obtain specimens of these in return for our postal order, and consequently did not analyse them, we do not mention her name in our list, but we note that she still advertises in many organs without any such saving clause, and with the usual testimonials as to obstinate cases cured after weeks of misery and helplessness, while it is clear that her trade could hardly pay for its advertising if it was exclusively devoted to the cure of menstrual irregularities unconnected with pregnancy.

In the list below the names following the names of the newspapers are those of advertisers to whom we have called attention in our articles. We shall be glad to forward copies of the articles to persons responsible for the appearance of the advertisements who may wish for further information.

LIST OF PAPERS.

Alfreton Journal.
Alloa Journal.
Armagh Standard.
Bath Herald (Martin).
Bath Weekly Argus (Davis).
Bedfordshire Standard (Martin).
Berkhampstead Times.
Bicester Herald.
Bo'ness Journal.
Bournemouth Guardian (Davis, Blanchard).
Caithness Courier (Blanchard).
Cambridgeshire Times (Blanchard).
Carmarthen Reporter.
Carnarvon Herald.
Chard News.
Cheltenham Mercury.
Christchurch Times.
Clapham Observer.
Clifton Chronicle.
Cromer Post.
Daylight (published at Norwich).
Derbyshire Courier.
Dunoon Herald.
Dunstable Borough Gazette (Blanchard).
East and South Devon Advertiser (Davis, Blanchard).
East of Fife Record (Davis).
Eastern Morning News.
Faversham News.
Flintshire Observer.
Folkestone Express (Blanchard).
Gateshead Guardian (Blanchard).
Galway Express (Blanchard).
Glamorgan Free Press (Blanchard).
Hampshire Telegraph (Martin, Allen or Irristum).
Hawick Advertiser (Blanchard).
Hereford Times (Blanchard).
Herts Reporter (Blanchard).
Huddersfield Chronicle.
Hull News (Ottey).
Illustrated Bits (Ottey).
Illustrated Police News.
Isle of Wight Advertiser.
Jackson's Oxford Journal (Blanchard).
Jarrow Express.
Kendal News.
Kent Herald (Blanchard).
Kent Messenger (Heseldine).
Kentish Chronicle (Blanchard).
Kentish Express.
Kilmarnock Herald.
Launceston Post.
Lincoln Echo.
Lincoln Mercury (Davis).
Liverpool Weekly Mercury.
Lowestoft Standard (Heseldine).
Manchester Eastern Mail.
Manx Sun.
Merthyr Times (Blanchard).
Midland Counties Express.
Midland Eastern News.
Montgomeryshire Express.
Newcastle Leader.
Newry Reporter (Blanchard).
Norfolk Standard (Heseldine).
North Devon Herald (Blanchard).
North Down Herald (Blanchard).
North Herts Journal.
Nottingham Daily Express.
Orcadian (published at Kirkwall, Orkney) (Montrose).[2]
Pelican (Martin).
Peterhead Sentinel (Blanchard).
Pembrokeshire Herald.
Preston Herald (Martin).
Reynolds's Newspaper (Martin, Allen or Irristum, Davis).
Rochdale Times (Davis, Blanchard).
Scarborough "Post" (Allen or Irristum).
Shields Daily Gazette.
Sketchy Bits (Ottey).
Sleaford Gazette.
Somerset Express.
South Durham Mercury.
Southampton Times (Martin, Davis).
Stafford Advertiser.
Surrey Gazette.
Sussex Advertiser.
Taunton Echo (Blanchard, Allen or Irristum).
Ulverston Advertiser (Blanchard).
Waterford Chronicle.
Weekly Northern Whig (Blanchard).
West Kent Advertiser.
West Lothian Courier (Blanchard).
Western Advertiser.
Western Express (Blanchard).
Western Gazette.
Western Mercury.
Westmorland Gazette.
Whitehaven Advertiser.
Woman (Martin).
Worksop Guardian.
Yarmouth Mercury.
Yorkshire Herald (Davis).

The sources of supply
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parts of Kent, whereas th
county of London were less
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the editor of the *Orcadian* explaining
that was accepted in error and inserted.
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repeatedly rejected advertisements of
has also refused to renew Madame
We wish other editors would be as

ARMY MEDICAL REPORT FOR 1897.

FIRST NOTICE.

THE report of the Army Medical Service for 1897 which has just been presented to Parliament dealing with the health and sanitary condition of the army gives the average strength of European troops serving at home and abroad during that year as 198,294 warrant officers, non-commissioned officers, and men. In what follows we cannot do better than adhere very closely to the excellent summary afforded in the report itself, reserving for a future occasion the consideration of the report in more detail. The total number of admissions to hospital was 192,654, and the total deaths were 1871. The admissions represent a ratio of 971·5 per 1000 of strength, the deaths one of 9·35 per 1000 on a strength of 200,058, which includes detached men not shown in the returns received. There has been again a decline in the admission and mortality rates amongst troops serving in the United Kingdom during the year, both as compared with the previous year and with the average for the decennial period.

There was no special prevalence of eruptive fevers, except at Caterham where there was an outbreak of scarlet fever. The ratios of admissions and mortality for enteric fever are the same as in 1896 and slightly below the average ratios. About one-fifth of the admissions occurred in Dublin, in many of which the fever was not, however, contracted there, but was traced to defects in the barracks at Birr. Influenza was more prevalent than in 1896. The decline in venereal diseases, which commenced in 1886 and has continued practically without interruption ever since, was again observed in 1897, the greatest decrease being in primary venereal sores.

Passing on to the army abroad we find that at Gibraltar there was a marked increase in the admission for venereal diseases in 1897; and enteric fever, although below the average for this command, was also more prevalent than in the preceding year. At Malta, Mediterranean and other continued fevers had increased in prevalence, but many of these cases, as well as a number of cases of dysentery, were contracted in Crete, the statistics of the sickness among the troops serving there having been included in those of the Malta command. In Canada the health of the troops was very good. In Bermuda there was a somewhat increased prevalence of enteric fever, the amount of which, though much below the decennial average, was above that of 1896. We may remark *en passant* that in the prevalence of this form of fever Bermuda compares unfavourably with that of other commands and appears to call for careful local investigation into its causes. The ratio for venereal diseases was relatively low at this station. There was an outbreak of yellow fever among the European troops in Jamaica causing 16 admissions and 10 deaths. Continued and malarial forms of fever were unduly prevalent among the troops serving in the West Indies. Venereal diseases showed a very high admission-rate which has been more or less continuous since 1888. In South Africa the health of the troops was fairly good on the whole, but enteric fever and dysentery caused a considerable amount of sickness in Natal. In Mauritius the health of the troops generally was above the average, the amount of malarial disease, which is *par excellence* the disease of that station, having decreased of late years.

In Ceylon there was little sickness of a special character. In China the most marked feature was the continuous and exceptional prevalence of venereal diseases which showed a further increase, amounting to nearly 33 per cent. in excess of the admissions during the previous year. In the Straits Settlements there was a large amount of sickness from malarial fevers, but venereal diseases declined considerably as compared with 1896 and with the decennial average. In India there was an increase in the admission and constantly sick rates, largely due to malarial fevers, and there was also an increase in sickness from enteric fever, other continued fevers, and cholera. There was a small decrease in venereal diseases. These diseases accounted for one-third and malarial fevers for nearly one-fourth of the total number of admissions. There were a few cases of plague among the troops in the Bombay command. The admission ratio of the troops in Egypt was lower than in 1896 and much below the average rate, the most notable decline being in enteric fever, venereal diseases, and digestive disorders.

AN HISTORIC CRISIS IN THE MEDICAL SOCIETY OF LONDON.

IN the course of some remarks made by the President of the Medical Society of London (Mr. Owen) at the anniversary meeting on March 8th, an account was given of a "lock-out" which occurred before the society was two years old. It happened thus:—

The first meeting of the society was held in May, 1773, at which 10 members were present, among them being Hulme, a retired naval surgeon, who was eventually the first librarian, Lettsom, the first treasurer, and Ford, who was asked to act as honorary secretary. Week by week new members were elected, amongst whom were John Millar, who shortly afterwards was voted into the presidential chair, Blizard and Bland, who successively helped Ford as secretary, and one, Pearce by name, who was, until he ceased to pay his rent, the society's tenant at their house in Crane-court. The part of this house which the society reserved for itself was the first floor, where, at a considerable cost, they had arranged a large meeting room and a small council room. Everything was going smoothly until the autumn of 1774, when considerable unrest occurred in connexion with the framing of rules. Party feeling ran high and the useful work of the society was seriously hindered. A special summons was sent out for a meeting of the society on Jan. 10th, 1775, for determining whether the report of the laws committee should be confirmed. This was decided in the affirmative by 17 votes to 13, three members not voting. In the minority were the president (Millar), the two secretaries, and the late secretary, Blizard. On the vote being declared the president and the secretaries resigned their respective offices but not their membership of the society. Now, the lease of the Crane-court house had been signed on behalf of the society by the president, the secretary (Ford), and the librarian (Hulme), and it, together with the minute books and the keys of the rooms, remained in their hands. On Jan. 18th, 1775, the anniversary meeting of the society was to be held, at which the officers for the ensuing year were to be appointed, but on the members repairing to Crane-court for that purpose they found the doors of their rooms "unwarrantably locked" and themselves without secretaries or minute-books. They adjourned, therefore, into one of the rooms which they had let to Pearce, where in considerable discomfort they elected their officers, with Lettsom at their head as president. The lock-out continued for a month, in the course of which it was reported to the Council that Millar, Ford, and Blizard had been heard to utter the impious statement that there was no such an association in existence as the Medical Society of London. Though by the action of their late president and secretaries the society had lost possession of its lease, its rooms, and its books, it considered that it had preserved its honour and its life, and the Council recorded their opinion that the impious expression given vent to by those gentlemen warranted them in erasing their names from the roll of its members. Meanwhile "*the Millar and his men*" had begun to realise the absurdity of the position in which their hasty act had placed them. If there were really no Medical Society of London what was the use to them of the lease which they had signed and impounded, and who was going to pay the rent of the house for which they had rendered themselves responsible? In these circumstances they sent Hulme, one of the co-signatories, as an ambassador to the Council, saying that if the Council would take over the lease and indemnify them from all future liabilities in connexion with it, they were willing to hand it over, together with the keys of the rooms and the minute-books. This the wise and gentle Lettsom undertook to do, and on March 7th, 1775, he had the great delight of composing a presidential message which was to be sent to all the members of the society "acquainting them that harmony is restored, and requesting their attendance as usual." At the same meeting the Council, doubtless at Lettsom's instigation, advised the society to consider "the Millar and his men" as members on their declaring themselves to be "friends of the society." This of course was don and as a proof that neither the society nor Lettsom bor Millar any ill-will for the very embarrassing and perilou course which, in the supposed interest of the society, he ha felt compelled to take, the society paid him the high compliment of asking him to deliver the Oration in January 1776. This also, it is hardly necessary to say, Millar wa glad to do, and it is very gratifying to see by the minute book that he had amongst his audience not only Hulme Bland, Blizard, and Ford, but Lettsom who occupied th presidential chair, and a large number of members wh must have voted against him on that momentous occasio twelve months previously. Fortunately, the good feeling amongst its members which carried the infant society safel through the convulsion and the crisis of 125 years ago stil prevails and shows no sign of diminution.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Withington Urban District.—The compulsory notificatio of measles was discontinued in this district during 1898, the council relying for their future knowledge of both measles and whooping-cough upon the public and private school authorities and on the school attendance officers. When a case of either of these diseases comes to the notice of the sanitary authority the inspector of nuisances will at once call at the invaded house and will leave printed instructions applicable to the case, and, if a medical man be not in attendance, this same officer will call at intervals to ensure the carrying out of the instructions. The inspector will also endeavour to make the notified cases clues to further and unnotified cases in the manner suggested by us recently in these columns. The day schools and Sunday schools involved will be notified of the cases and printed precautions will be left at houses near to the ones invaded. When five or more cases occur in connexion with any public school the average and present attendances in each department will be ascertained, as also the number of children known to be suffering from disease, and the number of children absent owing to the disease in question existing in their homes. When the number of actual cases either of measles or whooping-cough exceeds 10 per cent. of the average attendance in any department that particular department will be closed unless there should be strong contra-indications to such a course, and if a Sunday school is held in the same building a recommendation will be made to close this also. During 1898 the schools did not, Dr. Railton thinks, act as disseminators of either measles or whooping-cough.

Newton Abbot Urban and Rural Districts.—Mr. W. Harvey, in discussing the prevalence of enteric fever in the urban district during 1897, refers to two cases which, in his opinion, contracted their infection from the consumption of cockles, while a third person who partook of cockles at the same time was attacked with gastritis. Having regard to the interest which at the present time attaches to the question of infection by shell-fish it would have been helpful had the date of the cockle feast been furnished, as also some statement as to the condition in which the molluscs were when eaten—i.e., whether cooked or raw. The typhoid bacillus is, as is well known, killed at a lower temperature than boiling-point. Mr. Harvey also refers to two cases of typhoid fever which he regards as having had their origin in the ingestion of water while bathing. In the report as to the Newton Abbot Rural District Mr. Harvey refers to an outbreak of diphtheria which he thinks was associated with the local school, the disease disappearing on the closure of the school and recurring on its re-opening.

Buckingham Rural District.—Dr. Philip Benson states in his annual report that the council of this district have refused to put into action the Dairies and Cowsheds Order, and he expresses the opinion that the order should be made compulsory by the central authority. Doubtless Dr. Benson is here referring to the making of regulations under the Dairies, Cowsheds, and [illegible] the order itself is already obligatory upon sanitary authorities. He would like to see "all cows with diseased udders or otherwise found dangerous on inspection ...... got rid of," the owners being compensated. It is by no means satisfactory for Londoners to hear that in the Buckingham rural district, from which not improbably milk is sent to London, cowsheds, &c., are not properly controlled. Two villages in this district have recently been called upon by the Thames Conservancy Board to treat their sewage, and hence some progress in this direction has been made. Dr. Benson, however, has still to deplore the fact that there is no isolation accommodation other than a tent in this district, and he thinks that had the Buckingham County Council possessed a medical officer of health more progress would have been made. Buckingham is certainly not a progressive county as regards sanitation, although there is in this county such an abundant harvest awaiting the successful sanitary reformer.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6730 births and 4718 deaths were registered during the week ending March 4th. The annual rate of mortality in these towns which had been 19·5 and 20·6 per 1000 in the two preceding weeks further rose last week to 21·6. In London the rate was 22·1 per 1000, while it averaged 21·2 in the 32 provincial towns. The lowest rates in these towns were 13·1 in Croydon, 14·6 in Leicester, and 14·8 in Burnley; the highest rates were 25·3 in Preston, 25·4 in Birkenhead, 29·6 in Manchester, and 29·8 in Liverpool. The 4718 deaths in these towns included 437 which were referred to the principal zymotic diseases, against 340 and 364 in the two preceding weeks; of these, 117 resulted from whooping-cough, 109 from measles, 96 from diphtheria, 43 from diarrhœa, 40 from "fever" (principally enteric), and 32 from scarlet fever. The lowest death-rates from these diseases were recorded in Croydon, Brighton, Bristol, and Preston, and the highest rates in West Ham, Swansea, Birkenhead, and Manchester. The greatest mortality from measles occurred in West Ham, Derby, Manchester, and Salford; from scarlet fever in Sunderland; from whooping-cough in Plymouth, Swansea, Birkenhead, Bolton, Hull, and Sunderland; and from "fever" in Wolverhampton. The 96 deaths from diphtheria included 48 in London, 7 in West Ham, 7 in Liverpool, 5 in Swansea, 5 in Sheffield, 4 in Blackburn, 4 in Leeds, 3 in Portsmouth, and 3 in Leicester. No fatal case of small-pox was registered last week in any of the 33 large towns; and two small-pox patients were under treatment in the Metropolitan Asylums Hospitals on Saturday last, March 4th. The number of scarlet-fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2584, against numbers declining from 2939 to 2575 on the nine preceding Saturdays; 236 new cases were admitted during last week, against 253, 202, and 241 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 413 and 484 in the two preceding weeks, declined to 470 last week, and were 87 below the corrected average. The causes of 69, or 1·4 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Salford, Newcastle-upon-Tyne, and in 13 other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Preston, Sheffield, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns which had declined in the three preceding weeks from 31·2 to 24·1 per 1000 rose again to 25·1 during the week ending March 4th, and exceeded by 3·5 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 19·7 in Dundee and 24·4 in Aberdeen to 26·3 in Glasgow and 28·2 in Leith and in Greenock. The 765 deaths in these towns included 33 which were referred to measles, 31 to whooping-cough, 21 to diarrhœa, six to "fever," five to scarlet fever, and three to diphtheria. In all, 99 deaths resulted from these principal zymotic diseases, against 76 and 64 in the two preceding weeks. These 99 deaths were equal to an annual rate of 3·2 per 1000, which was 1·2 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had declined from 43 to 23 in the four preceding weeks, rose again to 31 last week, and included 11 in Glasgow, seven in Edinburgh, six in Leith, and five in Dundee. The deaths from measles, which had been nine and 19 in the two preceding weeks, further rose to 33 last week, of which 19 occurred in Aberdeen, seven in Glasgow, and five in Edinburgh. The six deaths referred to different forms of "fever" exceeded by two the number recorded in the preceding week and included four in Glasgow. The five fatal cases of scarlet fever corresponded with the number in the preceding week and included four in Glasgow; and of the three deaths from diphtheria two were recorded in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 285 and 233 in the two preceding weeks, further declined to 213 last week, but were 71 above the number in the corresponding period of last year. The causes of 52, or nearly 7 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin which had been 27·3 and 30·3 per 1000 in the two preceding weeks further rose to 31·9 during the week ending March 4th. During the past four weeks the rate of mortality in the city has averaged 30·3 per 1000, the rate during the same period being 21·4 in London and 26·2 in Edinburgh. The 214 deaths registered in Dublin during the week under notice showed an increase of 11 upon the number in the preceding week, and included 17 which were referred to the principal zymotic diseases, against eight and 12 in the two preceding weeks; of these, six resulted from "fever," five from whooping-cough, four from scarlet fever, two from diarrhœa, and not one either from small-pox, measles, or diphtheria. These 17 deaths were equal to an annual rate of 2·5 per 1000, the zymotic death-rate during the same period being 2·0 in London and 3·1 in Edinburgh. The deaths referred to different forms of "fever" which had been two and four in the two preceding weeks further rose to six last week. The fatal cases of whooping-cough which had been four and two in the two preceding weeks rose again to five last week. The four deaths from scarlet fever exceeded the number recorded in any week since November last. The 214 deaths in Dublin last week included 25 of infants under one year of age and 55 of persons aged upwards of 60 years; the deaths of infants showed a marked decline, while those of elderly persons slightly exceeded the number recorded in the preceding week. Eight inquest cases and eight deaths from violence were registered; and 90, or more than a third, of the deaths occurred in public institutions. The causes of 13, or more than 6 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

Royal Navy Medical Service.

THE following appointments are announced:—Staff Surgeon W. J. Colbourne to the *Boscawen*, additional for the *Agincourt*. Surgeons: H. Huskinson to the *Cambridge*, and G. B. Brown to the *Vivid*, additional.

Army Medical Service.

Surgeon-General H. S. Muir to be Deputy Director-General, vice Surgeon-General W. Taylor, C.B., who has vacated that appointment.

Royal Army Medical Corps.

Captains A. H. Bray and J. H. Rivers, and Lieutenants S. L. Cummins and H. G. F. Stallard are directed to proceed to Egypt for duty with the Egyptian Army. Major H. J. McLaughlin, half-pay, is posted to the Western Heights, Dover, for duty.

Army Medical Reserve of Officers.

Surgeon-Lieutenant Conrad Theodore Green, 1st Volunteer Battalion the Cheshire Regiment, to be Surgeon-Lieutenant.

Volunteer Corps.

Artillery: 1st Aberdeenshire: Surgeon-Major R. J. Garden resigns his commission; also is granted the rank of Surgeon-Lieutenant-Colonel with permission to continue to wear the uniform of the corps on his retirement. 2nd Sussex: Surgeon-Major H. Colgate to be Surgeon-Lieutenant-Colonel. 2nd Middlesex: Surgeon-Lieutenant A. B. Lyon to be Surgeon-Captain. *Rifle:* 17th *North* Middlesex: The under-mentioned Surgeon-Lieutenants to be Surgeon-Captains: P. S. Spokes and J. W. Fare. 1st Tower Hamlets: George Alexander Cohen to be Surgeon-Lieutenant. 1st Volunteer Battalion the Prince Albert's *(Somersetshire Light Infantry): Richard George Worger to* be Surgeon-Lieutenant. 4th (Cambridge University) Volunteer Battalion the Suffolk Regiment: The under-mentioned officer resigns his commission: Surgeon-Lieutenant G. V. Worthington. Galloway; Surgeon-Lieutenant D. D. Monro *to be Surgeon-Captain. 4th Volunteer Battalion the Hamp*shire Regiment: Surgeon-Lieutenant A. H. Vernon to be Surgeon-Captain. 4th (Stirlingshire) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Lieutenant-Colonel M. Benny resigns his commission; *also is permitted to retain his rank and to continue to wear* the uniform of the battalion on his retirement.

THE EXAMINATION OF RECRUITS FOR THE ROYAL NAVY.

A correspondent sends us a copy of a circular which is sent out by the Medical Department of the Navy. It reads:

> Will you please inform me by return of post if you are willing to examine Recruits for the Royal Navy at —— on the following scale of remuneration—

(a) If a candidate is rejected by you	2s. 6d.
(b) If passed by you, but *rejected on medical grounds* at the final examination by a board of medical officers at the Royal Naval Hospital at the port	nil.
(c) If passed by you and not rejected on medical grounds at the final examination	4s. 0d.

Our correspondent asks us for our opinion on this scale of payment which he characterises as "sweating." At *first sight the scale may seem to be inadequate.* We understand, however, that the terms in question have been offered for some time and are those paid to the Admiralty surgeons and agents and marine recruiting officers throughout the country. *The fact that these appointments* are somewhat keenly sought after would seem to show that they are not considered inadequate. Our correspondent's complaint is the only one which we have as yet received with regard to the subject and we imagine that if the scale of payment was anything like universally regarded as "*sweating*" we should have heard more about it.

THE TRANSPORT OF SICK AND WOUNDED SOLDIERS.

We are glad to notice that the subject of our inadequate and defective arrangements for the transport of sick and wounded soldiers is receiving attention. This nation is lagging behind continental nations in this respect both in this country and in India. As regards the latter, the amount of railway accommodation requires to be in*creased and its quality improved for* the more comfortable transport of the sick and wounded towards Bombay and thence to England by troopship. The arrangements and accommodation for invalids on board ordinary troopships are not by any means all that they should be and we need a larger number of hospital ships, *designed and fitted out* as such, for the conveyance of sick and wounded men and invalids from abroad. *Sick soldiers returning from* abroad and suffering from the effects of malarious and tropical fevers or dysentery or invalided after active campaigning have a right to expect that they will be brought home in a roomy, comfortable sea going vessel where the medical, hygienic, and other arrangements *for their recovery are* made the main and not a subordinate consideration.

THE ABSENT HOSPITAL SHIP AND THE OMDURMAN CAMPAIGN.

We are not surprised that Colonel *Lonsdale Hale* is not at all satisfied with the further explanations of the Under-Secretary *of State for War in amplification of* those which he afforded the House of Commons on Feb. 16th. Mr. Wyndham was, of course, in no respect personally responsible in the matter; his task was to defend a grave mistake, to say the least of it, which had occurred before he was in office. There is no doubt that there should have been a hospital ship present at Alexandria, if not two; that there was ample time, if steps had been taken *to prepare one after it had been first* asked for by the Army Medical Service, to have had a hospital ship there; and that the want of it was sorely felt and prejudicially affected the interests of the sick and wounded.

RECRUITS.

According to the recently issued Report of the Inspector-General of Recruiting 66,501 recruits presented themselves for medical examination last year. Of these 23,287, or 35 per cent., were rejected for various ailments or for want of physical development; 13,969 for the first reason and 9318 for the second. *This is not calculated to afford a favourable* impression of the progressive improvement in the health and physique of those classes of the civil population from which recruits are mainly drawn.

THE OPERATIONS IN WEST AFRICA.

Among the names brought to the notice of the Minister *of War in the late despatch of the Secretary of State for the* Colonies are the following: Mr. E. H. Tweedy, Assistant Colonial Surgeon, Gold Coast; Dr. J. O. Coker, Assistant Colonial Surgeon, Gold Coast; Captain E. M. Hassard, Royal Army Medical Corps; Mr. W. H. G. H. Best, Assistant Colonial Surgeon, Lagos; and the late Mr. F. W. Rock, Assistant Medical Officer, West African Frontier Force.

THE SOUDAN.

The Khalifa's forces are stated to be raiding the districts and oppressing those tribes in the Soudan who were friendly to us during the late campaign and the impression is growing that a fresh expedition on a small scale against the Khalifa will be required. Meanwhile, the health of the British troops at Khartoum *is excellent and there is little or no fever* prevalent among them.

HONORARY SURGEON TO THE QUEEN.

We have to congratulate Surgeon-Major and Hon. Deputy Inspector-General J. Jee, V.C., C.B., half-pay, late Medical Department, on his being appointed Honorary Surgeon to the Queen, vice Surgeon-General Sir J. Mount, K.C.B., V.C., deceased.

DEATH IN THE SERVICES.

Surgeon-Major John Stuart Smith (retired), late A.M.D., on March 1st, at his residence in Edinburgh, aged 84 years.

Correspondence.

"Audi alteram partem."

THE PREVENTION OF PHTHISIS AND NOTIFICATION.

To the Editors of THE LANCET.

SIRS,—I have read with much interest the abstract of Dr. Newsholme's address published in THE LANCET of Feb. 4th, page 279; but while very much has been said of late about "The Prevention of Phthisis" I cannot feel at all sure that at this time there is sufficiently conclusive evidence to justify the doctrine.

As regards "notification" of the disease to the medical officer *of health, this will of course follow* when the *means* of diagnosis shall be certain and infallible. Possibly the *Local Government Board* may be able to arrange a *special* diagnostic department the officers of which would relieve us of much anxiety in cases in which the diagnosis was not quite certain and our patients of all doubt in a number of cases in which we feel unable to form what an actuarial friend of mine was always *demanding*—"a firm opinion." As I began medical teaching in 1850 I shall necessarily be called old, and perhaps a fogey or fossil in addition, but are we not going too fast and too far with regard to the "Prevention of Consumption" question? Nay, are we as yet justified in leading the public to infer that consumption *certainly can be "prevented" or "cured"?*

Everyone who has been *engaged for many years* in medical work in hospitals and among the more fortunate people who can command the "best advice of their time" has probably also seen many cases pronounced to be phthisis which were not of that nature—many cases in which the disease was not suspected or diagnosed in its early stages—and many more cases which were "doubtful" for a long time. I can *remember the cod-liver oil enthusiasm, the warm climate* enthusiasm, the open window treatment in high altitudes in midwinter. Other cases, again, in which great careers were needlessly cut short—cases in which money was wasted, and misery caused or much increased by steps being taken in consequence of "threatened tubercular disease," as well as sad cases which at first seemed to be "only a cold," but proved to be what we then called "acute phthisis" fatal in a few days or weeks. Of course such sad misfortunes would be no longer possible if in every case of phthisis the bacillus was detected, and was not present in any case in certain respects resembling the disease.

Then, as to the out-door treatment I would ask, Are there not hundreds of careful, intelligent members of our profession in suitable places in all parts of the country by whom doubtful cases might be watched for a time and serious cases efficiently tended — both classes of patients being happier, and chronic invalids better placed as to nursing, medical treatment, food and comforts than would be possible in hospitals, homes, or sheds, with strangers, hundreds of miles away? Lastly, there is the unfortunate proposal about "notification" and the imposition of yet more "laws"! Are we not already burdened with laws, inspections, orders, notifications and authorities with the right of disturbing us in our homes enough? Would *not* the public have been better off by this time had they been allowed to take advice from us, instead of being subjected to compulsory laws to be afterwards abrogated, left in abeyance, or neutralised by a "conscience" or other clause? If years ago vaccination had been left entirely in our hands and to our teaching and persuading powers, *would there have been at this time* a single unvaccinated or discontented person in the country? Of course I shall be told to look at Germany and her vaccination success—but the mental constitution of the German and the Briton is, indeed, very different. Perhaps from being less logical, we are not to be managed on precisely the same principles as those applicable to some of our foreign friends—especially where ideas of health and freedom are concerned.

I am, Sirs, yours faithfully,

Feb. 5th, 1899. LIONEL S. BEALE.

THE CENSUS BILL FOR 1901.

To the Editors of THE LANCET.

SIRS,—The Census Bill for 1901 being now under the consideration of the House of Commons it behoves all persons interested in vital statistics and sanitation (whether medical officers of health, practitioners, or members of the Statistical Society) to exercise their power in order to obtain a "Quinquennial Census" Bill instead of a "Decennial" one, also that the same be taken at the end of June. A quinquennial census is practised in France, New Zealand, Queensland, Manitoba, and North-Western Territory of Canada, and in some German States a triennial. Vital statistics must always furnish the basis on which sanitary reforms shall rest and as these are obtained from the population of districts, unless the said population is accurate the results desired, after the trouble of gathering the statistics, are worthless. Means have been adopted to obtain the estimated population of places for intercensal periods, but these are found to be inaccurate and the error increases the further the calculation is removed from the last census. The effect of migration is so great in this country and especially in rural districts, of which Cumberland, Westmorland, and Cheshire afford numerous examples, that no means can be adopted to cope with the same "except [illegible]requent census returns." Trusting that some of your [illegible]aders in each Parliamentary division will petition the [illegible]resentative of that division to support and vote for a [illegible]uinquennial census" when the Census Bill is before the H[illegible]se,

I am, Sirs, yours truly,

JOHN PENNY, M.B., B.Sc. (Public Health) Edin.

Great Broughton, near Cockermouth, Feb. 25th, 1899.

[INCLOSURE.]

(Copy of letter forwarded to each M.P. for Cumberland, Westmorland, and Cheshire by me.—J.P.)

THE CENSUS BILL FOR 1901.

Great Broughton, near Cockermouth,
March, 1899.

DEAR SIR,—The Census Bill for 1901 being now under discussion I take this liberty in writing to ask if you will kindly support a "quinquennial census" instead of a decennial one, also to have the same taken at the end of June. A quinquennial census is practised in France, New Zealand, Queensland, Manitoba, and North-Western Territory of Canada, and in some German States a triennial. Vital statistics must always furnish the basis on which sanitary reforms shall rest and as these are obtained from the population of districts, unless the said population is accurate the results desired, after the trouble of gathering the statistics, are worthless. Means have been adopted to obtain the estimated population of places for intercensal periods, but these are *found to be inaccurate and the error increases* the further the calculation is removed from the last census. The effect of migration is so great in this country and especially in rural districts, of which Cumberland, Westmorland, and Cheshire afford numerous examples, that no means can be adopted to cope with the same "except frequent census returns." Trusting you will do what little you can by speaking in favour of a quinquennial census when the Census Bill is before the House and voting for the same, I remain, yours, &c.

EPIDEMIC INFLUENZA: ITS PECULIARITIES AND TREATMENT.

To the Editors of THE LANCET.

SIRS,—The Thames Valley, like other parts of the country, has of late been suffering from an epidemic of influenza and an opportunity has thus been afforded us of studying the disease in its latest phases. The poison on this as on other occasions seems to be expending itself on the nervous system and though the cases are not usually serious they are very trying both to medical man and patient and exhibit signs of great prostration. It mostly manifests itself in two different forms. First, in neuralgic pains about the head and limbs; and secondly, in spasmodic cough similar to whooping-cough. It is somewhat curious to find that the temperature in these two forms is not as a rule identical. In the former it is usually above the normal, while in the latter it is below, generally only 97° F. As regards duration the first is, as a rule, much shorter than the second, but both are associated with great debility. As regards treatment, the neuralgic pains yield pretty readily to salicylate of soda, but the spasmodic [illegible] most undoubtedly a very difficult symptom to de[illegible], for as far as I have been able to see it is [illegible]d little or nothing by any treatment, whether gene[illegible] local. I have tried diaphoretics, nerve sedatives (su[illegible]s hydrobromic acid, prussic acid, conium, codeia, and [illegible]eminum), stimulants (as ammonia), tonic (as quinine an[illegible]ark), inhalations of steam (friar's balsam and cresyline), [illegible]d counter-irritation applied to the throat by means of chil[illegible] paste covered over with damp lint and oiled silk. Of all methods I think the last-mentioned is the best, supplemented with diffusive stimulants and bark.

I am, Sirs, yours faithfully,

Surbiton, March 6th, 1899. F. P. ATKINSON.

THE CLINICAL RESEARCH ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—As I am constantly receiving letters with reference to specimens sent to the Clinical Research Association for examination I should like to point out that I have never been on the staff of this body and, indeed, am not even a subscriber. By allowing this statement to appear in your columns you will save me considerable trouble in replying to letters about matters in which I am in no way concerned.

I am, Sirs, yours faithfully,

Cavendish-place, W., March 7th, 1899. J. W. WASHBOURN.

"HUNTER *v.* CLARE."

To the Editors of THE LANCET.

SIRS,—As there have been since the "Hunter case" statements and inquiries all seeming to cast doubt on the right of a Licentiate of the Royal College of Physicians of London to style himself "physician," I would reiterate the well-known answer given by the then Attorney-General, Sir R. Palmer, to a question submitted to him by the Royal College of Physicians whether their Licence conferred upon the holder the title of physician, the answer being in the affirmative. Secondly, that whatever may have been said by the way or in passing by the judges in the Hunter case or any inference therefrom is not authoritative, the only statements of a judge which are so authoritative being those which actually form part of the judgment on the question at issue. So I submit that the title of a Licentiate of the Royal College of Physicians is in no way altered by any *obiter dictum* or inference therefrom in the Hunter case.

I am, Sirs, yours faithfully,

Hastings, March 4th, 1899. FREDERICK W. COLLINGWOOD.

To the Editors of THE LANCET.

SIRS,—As I see that Mr. J. Noble Bredin of Potton has been accused of complaining to the General Medical Council of my late husband, I think it only right to state that the real complainant was another medical man, as can easily be proved. Beyond trying to get an honest living in that man's neighbourhood my poor husband never did him any harm, but the action which resulted from his complaint caused my husband's death at the early age of 31 years, leaving me completely unprovided for.

Mr. Bredin was a true and loyal friend to us both.

I am, Sirs, yours faithfully,
CAROLINE KINGSLEY HUNTER.

Warwick street, S.W., March 7th, 1899.

"SYMPTOMS OF POISONING FROM A SMALL DOSE OF TINCTURE OF CANNABIS INDICA."

To the Editors of THE LANCET.

SIRS,—I have been interested by reading in THE LANCET of Dec. 24th, 1898, the valuable observation on cannabis Indica by Mr. Antony Roche. I had a similar experience not long ago which might interest your readers. The patient, a young woman, aged 19 years, strong and robust in health, consulted me for dysmenorrhœa. I ordered her three-quarters of a grain of extract of cannabis Indica and added some camphor to it to be made into a pill. The next day her friends were alarmed by her condition and sent for me. I found that after taking one pill she was noticed to be different from her usual manner and the pleasurable intoxication of Indian hemp was present in a feeling of happiness and excitement. Soon, however, she complained of dizziness and went to sleep On awaking the next morning she was herself. The druggist assured me that no mistake had been made and that a similar preparation was sent to another person who took it without the least symptom of intoxication. I quite agree with Mr. Roche that some people are more susceptible to the action of the drug than others, in spite of the variation in strength of the official extract or tincture, and it would be better to begin with very small doses to test the patient's tolerance of it.

I am, Sirs, yours faithfully,
ANTONIUS J. MANASSEH.

Brumana, Beyrout, Jan. 10th, 1899

"REGINA *v.* REICHARDT."

To the Editors of THE LANCET.

SIRS,—Referring to Dr. Goodhart's remark, "I will not take up your space by discussing with Mr. Sers 'what constitutes insanity,'" I can assure this gentleman that I am better engaged on this occasion and have nothing whatever to do with the subject beyond what is involved in the legal aspects of the case. As I gather from Dr. Goodhart's letter he claims for certain privileged persons a kind of moral right to break the law—at least, he appears to see no reason why cases of temporary insanity should not be treated in uncertified houses; but if so, what is the use of legislation on the subject? The point I intended to bring before you is one of extreme simplicity. Dr. Reichardt, as I understand, received a patient suffering from some indefinite form of nervous disease which resulted in suicide. I submit therefore a *primâ-facie* case presented itself that the law was being tampered with. I say a *primâ facie* case was created to this effect and how could the case be decided on its merits without resorting to a court of law? The fact that the case had been seen by Dr. Savage, Dr. Goodhart, and Mr. E. C. Kingsford who pronounced it unripe for an asylum I further submit was not sufficient reason for deterring the Commissioners from taking legal proceedings, otherwise the administration of the law with regard to the control of insane persons would practically be at the caprice and mercy of private individuals; and although, of course, the *bona fides* of these gentlemen is unquestionable—and I say this with perfect sincerity—the fact of the case having been seen by the aforesaid gentlemen and considered unfit for an asylum is not sufficient reason for keeping the law in a state of inertia, otherwise there is no guarantee that on any future occasion men of equal integrity might be concerned and as an ultimate consequence of establishing such a precedent a refined system of covering or evading the law might be thereby created.

I am, Sirs, yours faithfully,
CLEMENT H. SERS.

Queen's road, Peckham, S.E., Feb. 18th, 1899.

THE ROYAL MEDICAL BENEVOLENT COLLEGE, EPSOM.

To the Editors of THE LANCET.

SIRS,—The appeal to the general public made by the treasurer of the Royal Medical Benevolent College at the end of last year appears to me to be well founded.

How many practitioners sacrifice their lives in the service of the public before they have had time to save. Dr. Holman asks for no help for the school, but urgently asks for aid in getting together the £6000 he has to find each year for the Council to spend on the aged pensioners and young foundation scholars. The appeal although addressed to the public in no way does away with the claims of this institution to the support of the profession. A perusal of the annual report tells a miserable tale of the scant support the College receives from medical men. Who can tell how soon misfortune may overtake a practitioner? Would it not be well even as a small insurance to subscribe to the College and thus to constitute a claim if necessity should arise to reap some of the benefits now offered but which might be so largely extended if money was forthcoming?

I am, Sirs, yours faithfully,
M.D.

"DIFFICULTIES UNDER THE NEW VACCINATION ACT."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of March 4th two gentlemen write on the above subject. One says: "Private practitioners have the game in their own hands. They have simply to take care that all their cases are vaccinated or accounted for to the vaccination officers before they are four months old." The second says: "Because your correspondent's patients and *themselves* [the italics are mine] do not comply with the law they try to make the public vaccinators answerable." May I ask what these gentlemen mean? It is, I think, the usual practice with private practitioners to vaccinate or sign postponement certificates only when the children are submitted to them. Both these gentlemen seem to imply that it is part of private practitioners' duty to either call upon the parents of such children as they have brought into the world without being sent for or to send them a reminder before the child is four months old as to the law on the matter. To take either of these steps would be offensive to most medical men, I think, and might lay them open to the charge of touting. Besides, it is no part of their duty and however the public vaccinator may be bound by the law the omission of these steps in no way justifies your second correspondent in saying that the medical attendant "has not complied with the law"; the parent may not have complied, but the new Act imposes no obligation whatever upon the medical attendant.

General practitioners have considerable justification for feeling sore on the point. Etiquette towards a professional brother is violated by visiting and "offering to vaccinate" his patient. It may be the law, but I should not care to carry it out and visit another man's patient in defiance of the ethics of the profession.

I am, Sirs, yours faithfully,
GENERAL PRACTITIONER.

March 4th, 1899.

To the Editors of THE LANCET.

SIRS,—Mr. T. F. I. Blaker must pardon me when I suggest that he has not quite grasped my argument and that that is why he finds my letter "silly." He simply begs the question when he justifies the public vaccinator as one "doing his duty." I say that to call on strangers and offer professional services is work that no professional man ought to undertake. It is only his "duty" inasmuch as he has voluntarily undertaken it. The medical officer of a canvassing medical aid society might as well plead that it was his "duty" to countenance canvassing and he might even say that the society was recognised by Act of Parliament. Parliament is no supporter of, but rather opposed to, our ethical laws. He must also pardon me for objecting to his suggestion that we must play the game by paying unasked visits ourselves and so defeat the public vaccinator. It is this very calling on people who have not requested our services that I think so undignified and unprofessional. Such visits would be very irksome to me, and I hope they will be so to all public vaccinators; that is all the "trouble" I wish these officers.

"Fairplay," in spite of his strongly worded opinion which is useless in an anonymous correspondence, gives away his side entirely. He says, "There is nothing interfering with professional etiquette if the law is complied with," clearly implying that if it is not complied with there is such interference. But it is the *parent's* duty to comply with the law; it does not in any way bind the private practitioner, so if through ignorance or neglect the parents do not comply with the law "Fairplay" practically confesses that the public vaccinator will act in a way "interfering with professional etiquette." That exactly expresses the view I hold. The truth is "Fairplay's" common-sense is too strong for his partisanship. His new reading of the 24 hour rule again allows his true opinion to escape. Of course it ought to be made clear to the public vaccinator that his services are desired before he calls, but in spite of his efforts to do so I am sorry to say "Fairplay" cannot read this into the Act. As to "Fairplay's" last argument, it would no doubt be unfair for a solicitor to abuse a policeman for arresting one of his clients, but I think he would justly blame a brother solicitor who so far forgot the dignity of his profession as to accept the duties of a policeman, and he would be still more indignant if he suspected that his rival was using the policeman's office to win clients. This is the true reading of "Fairplay's" analogy, and I believe he felt that the public vaccinator was playing the unworthy part of a policeman when he thought of the comparison. The schoolmaster is no analogy, for he does not and would not call upon defaulting children. "Fairplay" will not find an analogy in any other profession, for their members have too much self-respect to accept similar duties.

With apologies for such a long letter,

I am, Sirs, yours faithfully,

March 6th, 1899. P. P.

OXYGEN IN PNEUMONIA.

To the Editors of THE LANCET.

SIRS,—Now that the calamity which loomed over the English-reading world is happily no longer formidable, may I as an old-fashioned practitioner of medicine be pardoned for asking the following questions? 1. What proof is there that crude oxygen when used as a remedy in pneumonia ever reaches the blood? 2. Assuming that an augmented intake of oxygen leads to an increased absorption, would not a similar end be gained by directing the patient to respire in double quick time, after the manner recommended some years ago as a universal panacea by General Drayson, R.A., in the *Nineteenth Century Magazine?* 3. Is it not possible, or even probable, that in pneumonia artificial oxygen should act as a direct irritant on the unaffected portion of the lung tissue, thus favouring the spread of the inflammation and prolonging the duration of the disease? 4. Can it be that oxygen in lung affections will turn out to be one of those remedies to which a distinguished physician referred when he was recommending his pupils to be sure and make use of them while they were still capable of effecting cures?

I am, Sirs, your obedient servant,

March 3rd, 1899. A RETIRED SURGEON.

*** The use of oxygen in pulmonary affections—e.g., bronchitis—is by no means new. It was employed by Dr. (afterwards Sir) B. W. Richardson more than twenty years ago.—ED. L.

EXETER DISPENSARY.—The annual meeting of this institution was held on Feb. 28th under the presidency of Mr. A. J. Mackey. The report stated that 6144 cases had been treated during 1898, being a decrease of 174 on the preceding year. The financial statement showed that legacies to the value of £1970 had been received and that a favourable balance of £38 remained. A discussion occurred as to the advisability of increasing the area of the home-visiting of patients by the medical staff. Dr. Davy gave attention to the fact that all the medical staff [illegible]ary and recommended that a salaried medical of[illegible] should be appointed to visit patients. On the motion of Canon Hobson it was decided to refer to the committee the advisability of Dr. Davy's suggestion.

THE BATTLE OF THE CLUBS.[1]

(FROM OUR SPECIAL COMMISSIONER.)

WESTON-SUPER-MARE (*concluded from p. 621*).

ONE of the general practitioners at Weston-super-Mare explained to me that some 14 years ago he came to this town, having bought a small practice estimated at £300 a year. This practice included the post of medical officer to the Liverpool and Victoria Legal Friendly Society. At that time he was quite ignorant as to what this sort of work involved, but when he found out he at once began to agitate against such a system. His employers thereupon selected another medical man in the town and transferred all the members of the Liverpool Society to him. In a very short time, however, their new medical officer likewise rebelled against their mode of procedure, so the Liverpool Society imported another medical man into the town. This their third officer failed to give satisfaction and the society was now obliged to advertise for someone to replace him. In answer to this advertisement they got a fourth medical man, but he only stayed three weeks, and then they had to advertise again. This time they got "a strong man," but they seem to have "caught a Tartar." This the fifth medical man who in a very brief period had been engaged by the Liverpool Society had come from a considerable distance. He was energetic and able. He did the work well and gave satisfaction to the patients, but I am told he was not long in the town before he began to organise a rival club of his own and that he employed a young woman to canvass for him who went about collecting 1½*d.* per week from the persons whom she persuaded to join the medical man's own private club in preference to the Liverpool Society. In her active canvass this young woman did not fail to create some irritation among the better class patients who resented her importunities. Thus this medical man while working well for his employers of the Liverpool Society was also competing against them. The other practitioners in the town rose in indignation against him. They took advantage of his connexion with a purely speculative and commercial company and made this the basis of their attack. Meeting together they agreed to draw up a letter in which they qualified the newcomer's connexion with the Liverpool Society as unprofessional and declared that they would not meet him in consultation, &c., so long as he held this appointment. This action of the members of the medical profession caused considerable agitation in the town.

After a while and as his position became more and more unpleasant the medical officer of the Liverpool Society resigned his appointment. In the meanwhile the medical men practising at Weston-super-Mare had, as already described,[2] formed themselves into a union. They now approached the canvasser who had been working for the Liverpool Society. They pointed out to him that after all that had occurred it would be *extremely difficult for this company* to get another medical officer. If therefore he would consent to leave them the medical men of the town would start a medical provident organisation of their own and employ him at a fixed salary as their collector. He would not have to do any canvassing or touting, which is always unpleasant work and which was contrary to the principles of the Medical Union, but would only have to collect subscriptions due. This offer was accepted, and the Liverpool and Victoria Legal Friendly Society, having thus lost both their medical officer and their canvasser, was fairly beaten out of the field and since that day has disappeared from Weston-super-Mare. This is a signal victory and triumphantly *demonstrates* what can be done by a united effort. At the same time the employment of the young woman to canvass for the private club of the Liverpool Society's former medical officer was also given up, but the private club still exists and the Medical Union is somewhat puzzled as to how to deal with it and its medical officer. This, indeed, is the only element of discord that still exists among the medical men of the town.

The Provident Medical Association which thus arose out of the ashes of the Liverpool Society is based on the following principles. First, all medical practitioners in the town are eligible as members of the medical staff and thus the danger of creating a monopoly is effectively guarded against. All officers of the association, such as chairman, secretary, treasurer, and committee of management, &c., are elected annually. All members of the medical staff are on the committee of management and there is for working details a business sub-committee consisting of the secretary, the treasurer, and not less than three other members of the committee of management. These latter are appointed quarterly. This sub-committee meets at least once a month and more frequently when necessary. The committee of management meets once a quarter but may be convoked more frequently at the written request of three members of the staff. All notices convoking meetings of committees must state the nature of the business to be discussed. The election of members of the staff is by ballot; a two-thirds vote is necessary and the candidate must be proposed and seconded by members of the staff. Members of the profession who start practice at Weston-super-Mare without introduction cannot be elected to the association during the first year of their residence in the town, but if a member of the association or his representatives transfer his practice his successor is immediately eligible if he conforms to the rules. Of course, no medical practitioner who has been guilty of infamous conduct or other objectionable practice in a professional sense can be elected. The following important rules are worth quoting textually:—

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[1] A reprint of the previous articles on the above subject has been published in book form entitled "The Battle of the Clubs," and can be obtained from THE LANCET Offices, price 1*s.*

[2] THE LANCET, March 4th, 1899.

> The members of the medical staff bind themselves not to undersell any of the present medical officers of existing or future clubs and not to countenance any medical practitioner who does so.
>
> No medical practitioner shall be eligible for election to the medical staff of the Provident Medical Association who subsequently to the foundation of the original staff shall have had any connexion whatever with medical aid or similar societies unless he can satisfactorily explain his position to the committee at the next quarterly meeting.
>
> No member of the association shall meet in consultation any medical man who subsequently to the formation of the Provident Medical Association practises in the town as medical officer to any medical aid or similar society.
>
> No member of the medical staff shall hold a private club. This rule is not intended to apply to what are usually understood as individual contract patients.
>
> An additional object of the association shall be to safeguard the interests of the medical practitioner, to promote fair and honourable practice, to prevent abuses in the medical profession, and finally to encourage friendly relations between medical men in the district.

This last rule it will be seen embraces all the elements for the formation of a fighting union destined to defend the economical interests of the profession. Should any serious cause of complaint arise against a member of the medical staff a special meeting of the committee is to be convoked and the person concerned is to be informed by registered letter of the details of the charge. Such charges must be brought forward by at least three members and if proved to the satisfaction of at least three-fourths of the members of the committee of management the offending party can be expelled from the association. All members of the association have to subscribe £2 towards the working expenses and to give a guarantee of £3 more if needed. The money is deposited in a bank, but all current expenses are paid during each quarter. Accounts are presented at each quarterly meeting. If there is a balance in hand £2 per member of the medical staff is to be kept in the bank as a reserve fund, after, of course, due provision has been made for all known liabilities. When this has been done, if there is still a surplus in hand it is divided among the medical staff so that each member receives a part of such surplus that is in proportion with the sum which the members on his list have subscribed to the association. The great point is that an effort has been made to insist, so far as practicable, on the principle that all members, whether they be men, women, or children, should pay a penny per week. This rule is based on the undoubted fact that women and children require more attendance and medicine than men. There is, as a rule, no entrance fee. A charge of 2d., however, is made for the subscription card unless the member is over 60 years of age and then an entrance fee of 2s. 6d. is levied. Persons who are not members and only seek to become members when they are ill are immediately admitted on payment of 10s. 6d. This subscription should be paid before the first visit of the medical officer. If not the collector must call within 24 hours and if it is not paid within another 24 hours the patient is not accepted as a member of the association. Persons suffering from chronic complaints are charged an extra weekly premium which is fixed by the committee according to the nature of the case. The premiums may be paid weekly, monthly, or quarterly in advance, but anyone who is more than six weeks in arrears will not be entitled to benefit. Members who are unable to attend at the medical officer's house must, if possible, send before 9.30 A.M., and emergency visits between 9 P.M. and 9 A.M. are charged 6d. extra. Nor does membership wholly cover the cost of surgical operations or of surgical appliances. Administration of anæsthetics and consultation with any other medical man are also charged extra. Special arrangements must be made with the medical officer for confinements, miscarriages, and vaccinations; nor does membership cover illness brought about through vice, intemperance, or immorality. The consultation fees are the property of the consultant and must be paid directly to him, but if this cannot be done the collector may collect them by such instalments as may be fixed by the consultant. Extra fees paid for confinements, miscarriages, accidents, and surgical operations are the exclusive property of the member of the staff attending the patient. In such cases the cost of medicines, surgical apparatus, &c., shall not be defrayed out of the funds of the association.

The question of medicines had next to be decided. The Provident Medical Association could not open a dispensary of its own for want of funds. This can only be attempted when there are a great number of members and a large income. Each member of the staff might have been left to dispense his own medicine, but this does not suit medical men who only give prescriptions. Consequently contracts were entered into with dispensing chemists of the town. All qualified chemists and druggists were admitted subject to the approval of the committee. A pharmacopœia was drawn up by the committee and approved by the druggist, the latter undertaking to provide only drugs of the best quality. The patients have to supply their own bottles and jars. Eight dispensing druggists accepted these terms, the members are free to select any whom they prefer, and the treasurer pays 1s. per annum to the druggist for every member on his list. The payments are effected quarterly, 3d. per quarter per member. 16 practitioners are now on the medical staff and the members may select from this list the medical attendant whom they prefer unless the member of the staff has as many subscribers on his list as he can conveniently attend and this is already the case with five out of the 16.

Such are the principal rules of the Provident Medical Association so far as its administration is concerned. With regard to the prevention of abuse the main points are the establishment of a wage limit, the refusal to accept children as members at ½d. per week, and the prevention of monopoly by accepting on the medical staff all resident and qualified practitioners. Of course, in fixing a wage limit great difficulties have arisen. Account had to be taken of the fact that at Weston-super-Mare there are hardly any workmen's houses. Cottages at 4s. or 4s. 6d. per week are not available. The rent of nearly all the poorest cottages is from 7s. to 9s. a week. Thus even workmen have to pay from £15 to £25 a year for rent and the taxes largely increase this sum. Under these circumstances the wage limit for a family is fixed at 35s. per week; but outside the town boundaries at Uphill, where rents are much cheaper, the wage limit is 25 per cent. lower. To enforce the wage limit it was at first decided that the honorary secretary should make special inquiries with regard to the income of each applicant. In a short time, however, such an undertaking was found to be far too burdensome. It was then agreed that each member of the medical staff should make investigations with regard to such subscribers as were on his own list. As a rule, of course, the members select for their medical attendant a practitioner with whom they are already acquainted; thus the medical officer knows something of most of the persons on his list even before he begins to make inquiries and it is for him to safeguard his own interests by preventing abuse. But in this there is always the great difficulty that in such a place as Weston-super-Mare nearly everyone lets lodgings. Even in the poorest back streets very high prices are paid for lodgings during the months of July and August. If rooms are let for only three or four weeks in the year this makes a considerable difference. In a poor back street as much as 30s. per week can be obtained for two small bedrooms and one sitting-room during the two favoured months of the year. Nevertheless, the letting of lodgings is such an uncertain and hazardous matter that it is not practicable to include the income which may result in fixing a wage limit.

The Provident Medical Association has now been in existence two years and there are at present 456 members or subscribers on its books. This is but a small number; on the other hand, the medical staff is not so anxious to have a large number of subscribers as it is anxious to prevent abuse. Also the number of members is increasing in a marked manner. Thus, comparing the last quarter of the second year with the first quarter of the same year it will be found that the increase of members is equal to 28 per cent. Nevertheless, the fact that there are so few members is a very serious matter, for how can the general expenses be met with so small an income? It is true that these expenses are at present very slight. The collector is paid only 7*s.* 6*d.* per week; all the rest of the work is done gratuitously and the cost of postage amounted to only 2*s.* during a whole quarter. In spite of this the medical staff have not received more than from 54 to 55 per cent. of the money paid by the subscribers. This is less than half-a-crown per annum per member on their list, and 3*s.* per annum per member can easily be obtained from an insurance company or from a benefit society. The loss that this difference represents will be willingly endured for the sake of the cause for at least a few years, but it would not be wise or fair to expect the whole of the profession to make such a sacrifice for an indefinite period. Energetic measures must therefore be taken to place the Provident Medical Association on a sounder financial basis. Of the 4*s.* 4*d.* paid by the members 1*s.* goes to the druggist, and of the remaining 3*s.* 4*d.* the collector's salary, printing, postage, and other expenses reduce the balance to less than 2*s.* 6*d.*

There is, fortunately, an obvious solution to this difficulty. By bringing to bear the necessary pressure by the united action of the entire medical profession of Weston-super-Mare it should not be difficult for the Provident Medical Association to take over the provident dispensary connected with the hospital. This latter institution is in an anomalous position and constitutes in itself a crying abuse. Indeed, it is difficult to see in what this dispensary differs from the clubs, the benefit societies, or the insurance companies which have been so warmly denounced on all sides. As already stated, the income derived from subscribers amounted last year to £356 and out of this only £87 6*s.* 9*d.* was paid to the medical officer and £5 5*s.* to a locum-tenent. Together they did all the medical work. For this total of £92 11*s.* 9*d.* no less than 6334 visits were paid to patients in their own homes, not to mention the far larger number of patients who received advice at the dispensary. Thus, if no allowance at all is made for the large number of patients seen at the dispensary, the above sum is only equal to a little over 3¼*d.* for each visit made at the patients' houses. As a rule the patients who go to a dispensary are two or three times as numerous as those who have to be seen in their own houses. On this basis the dispensary medical officer would scarcely receive more than 1*d.* per consultation whenever given. Considering that the hospital makes a profit of about £100 out of all this badly paid work the hospital dispensary may well be qualified as a "sweating" institution. As previously stated, the payment made over last year by the dispensary to the hospital amounted to £179. Even if we allow £79 for drugs and as rent for the use of premises at the hospital there remains £100 net profit, and it is difficult to see on what grounds the hospital can be entitled to this profit sweated out of the labour of the dispensary medical officer. The subscribers who pay the money have no voice in the disposal of the profits which result from their payments. If they had the spirit of organisation they could leave the hospital, hire premises elsewhere, and keep their profits for themselves.

The grievance, however, does not consist merely of sweating a profit out of an underpaid medical officer, the hospital dispensary competes disastrously against the Provident Medical Association and injures the interests of the profession throughout the town. It accepts children at ½*d.* per week and does not impose a wage limit. It is true that of late a few well-to-do persons have been struck off the books, but this is a mere dabbling with the grievance. Last year there were no less than 2279 subscribers to the hospital dispensary, of whom 1210 were children. The admissions of new members were 488 in 1898, as opposed to 399 in 1897, so that the evil is not decreasing. To the suggestion that the hospital dispensary should be abolished two principal objections are raised—firstly, that the hospital is short of funds and could not afford to lose the £100 or so profit that it makes out of the dispensary. On the other hand, the existence of this dispensary occasions a good deal of resentment against the hospital among the members of the profession. This feeling could be easily removed and in exchange the medical profession could undertake to use their influence so as to increase the subscriptions and donations made to the hospital. Such increase would more than compensate the loss of the profits derived from the dispensary. The second objection is that if the hospital was abandoned there would be some 2300 persons available for some insurance company to canvass. But in answer to this it is urged that as such an insurance company was broken up when the medical practitioners of the town were not so united and well organised as they are at present a second victory would therefore be more easy to win than the first. Of course, to this it may be urged that the first victory was due as much to good luck as to the strength of the medical organisation. But certainly the moment the hospital consents to give up its provident dispensary the Provident Medical Association should be organised and ready to take over the subscribers who belonged to the hospital provident dispensary. No interval should be allowed during which some outside insurance company could step in. Thus it will be seen that the obstacles are not very great. The medical staff of the hospital are all members of the medical union and it would be impossible for the hospital to refuse a demand made by all the medical men of the town. Nor is there any reason why the committee of management of the hospital should refuse since it would lose nothing and would, on the contrary, get rid of the discredit of running a sweating institution.

The Medical Provident Association has not got 500 subscribers, but by abolishing the hospital dispensary it may increase its membership to more than 2000 and thus acquire a sound financial basis which it does not at present possess.

Weston-super-Mare, March 5th.

THE BRADFORD AND WEST RIDING MEDICAL UNION.

This union appointed a committee to draft a set of by-laws, rules, a tariff, and the like. The draft report was submitted to a meeting of the union held on March 2nd and approved of. Besides the ordinary rules for the conduct of a society there are resolutions forming a code of medical etiquette which are sensible without being faddy. In Part VI., suggestions for a scale of fees, we find the following: "It is a responsibility ...... to endeavour to secure and maintain a fair and generous standard of fees. ...... This cannot be effected merely by raising the minimum charges of practitioners. ...... The general standard is ruled by the average fees charged by the leaders of the profession in any locality." Then follows a standard *table of minimum fees calculated* on the usual basis of rental. We are glad to see that the minimum club tariff is at the rate of 4*s.* per member per annum.

MEDICAL ATTENDANCE IN THE DURHAM COALFIELD.

We have upon previous occasions[1] commented on the relations between miners and their medical men not only in the Durham coalfield but also in the Welsh coalfield. The matter in the Durham district has reached a rather acute stage, for we see from various paragraphs in the *Newcastle Daily Chronicle* that many miners' associations have decided to refuse the demand of the medical men for a rise of 50 per cent. in the subscriptions. An editorial article from the same journal points out with great force that the miners are in an "awkward predicament."

> They cannot dispense with medical attendance. They cannot import cheap medical labour from outside, because to do that would be to descend to measures which the basest and most brutal capitalist does not now dare resort to; nor can they employ any person who is not a member of the medical union, because that would be to encourage the blackleg. The blackleg, we know, is so odious to trade unionists that no self-respecting unionist pitman will descend the mine with him or even pray in the same chapel with him. The only way out of the deadlock that we can see is for the miners to pay the extra 50 per cent. and thank God that trade union principles are extending.

This is common-sense. It may be very fine argument to say that the consciousness of duty done will repay a medical man for all his toil, but this feeling, though praiseworthy, will not feed or keep the practitioner, and not even the most grasping income-tax commissioner would assess such consciousness under schedule D.

The matter is being fully discussed in the local newspapers and in the *Newcastle Daily Leader* of March 7th is a very temperate letter from, we presume, a miner. This gentleman whose name is James Henderson advises his fellow miners to meet the medical men in a friendly spirit and to try to arrange matters amicably. This is very sound advice. The miner is as a rule a hard-headed and sensible man and so is the medical practitioner, although there are exceptions on both sides. In another letter attention is drawn to the practice which seems to prevail of a practitioner or firm of practitioners keeping numerous assistants simply to do the colliery work.

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[1] THE LANCET, Nov. 12th and Dec. 24th, 1898, and Feb. 4th, 1899.

Medical Attendance in the Welsh Coalfield.

In our issue of Dec. 24th, 1898, we mentioned the formation of the Eastern Valley Medical Association and its demand that the terms upon which medical assistance was guaranteed should be raised. Most of the works and collieries in the district have already granted an increase of *1d.* in the £, but Cwmbran Colliery has refused this rise. Therefore the medical man in charge, Mr. O. S. Bowker, has resigned. The following resolutions were passed at a meeting of the association held on March 4th:—

1. Proposed by Mr. R. W. Haslett and seconded by Mr. S. B. Mason that the secretary write to various medical societies requesting them that in the event of an advertisement appearing for the position of surgeon to any colliery or works in the Eastern Valley, and especially the Cwmbran Colliery, they will use their influence to dissuade intending applicants for the appointment.
2. That intending applicants for the vacant post be requested to communicate with the honorary secretary of the Eastern Valley Medical Association, Mr. A. B. Avarne, Crossfield House, Blaenavon, Mon.

⁂ We have up to the present treated the question of the pay of colliery surgeons in another column. As the question has now assumed a phase of strife between the medical unions and the miners' unions we have transferred it to the present heading.—ED. L.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Further Experiments with Curative Serum.—The Plague Commission.—The Improvement Trust and the Housing of the Poor.—The Progress of the Plague.—The Indian Subordinate Medical Service.—Opposition to Inoculation at Hyderabad.

THE latest experiments with regard to plague curative serum do not throw out much hope of success. Two kinds are now being tried in Bombay. About 25 cases have been inoculated with Roux's serum received from Paris and a similar number of cases have been taken as controls. The results so far do not show any advantages among the injected cases. The mortality in both series has been high. About 30 cases have been inoculated with Lustig's serum which has been prepared by Dr. Galeotti at the laboratory in Bombay. The results here, also, are equally doubtful. Little or no improvement is shown in the mortality, but to those who survive some benefit is thought to accrue in the lessened tendency to suppuration in the glands. No comparison can be made with the average of cases admitted to hospital because moribund cases are for the most part excluded in these experiments. One is loth to report that no appreciable benefit can be detected in this form of treatment of plague.

The Plague Commission has been taking evidence at Baroda. Mr. A. D. Cooper, the health officer, stated that plague in a mild or modified form was present along the Konkan Coast at Revadanda and other places in North Konkan for some years before its presence was officially recognised in Bombay. Cases of painless general lymphatic enlargements with and without fever were also observed in Bombay but as the significance of the phenomenon was not recognised no notes have been kept by the observers. In Calcutta, he said, cases of this description had also given rise to great difference of opinion. Plague appeared in Baroda in the latter part of 1896 brought by a patient to Kharvawad from Surat. He had found that nearly two-thirds of the total deaths from plague escaped detection which shows the great difficulty of working in the midst of an ignorant, obstructive, and secretive populace and also marks the necessary limitations of a body of men working in the midst of a large unwieldy population. He also referred to the occurrence of cases of plague in houses which had been thoroughly disinfected by perchloride of mercury. He held that quarantine and watching and restricting the movements of the people should be done away with as being inadequate for the purpose of protection and therefore unjustifiable. With regard to the deaths of monkeys he had made the observation that these sagacious creatures left off frequenting the neighbourhood where they found plague. As regards the bottles of prophylactic serum he noticed a copious granular sediment almost invariably. On removal of the cork a foul putrescent smell was discernible—a smell very much like that of putrefying meat—but no living organisms were detected microscopically, not even sarcinæ. The sediment showed some inorganic crystals and some irregular forms of matter which imbibed the stain of aniline blue. Other evidence reported is of no interest.

The district of Bombay which is to be razed to the ground under the Improvement Trust Scheme had a death-rate in 1896 of 40·42, in 1897 of 59·10, and in 1898 of 61·61. Concerning the displacement of the population on which much apprehension prevailed the chairman has announced that the board would build accommodation for the poorer and working classes occupying premises actually on the line of the proposed streets or sanitarily unfit for habitation and that such accommodation will be provided where possible *in situ* or in the vicinity, but encouragement will be given to the population to spread by also building in the northern suburbs.

The plague shows no sign of abatement. There has been a further development in Bombay city and a rise in the Belgaum and Bijapur districts. At Karachi it shows signs of spreading slowly and steadily, cases having occurred in as many as seven quarters of the town. An increase is reported in the Madras Presidency also at Anantapur and North Arcot. Also in Mysore city five plague deaths have occurred at Jullunder in the Punjab and two suspected cases have been discovered in Calcutta. In the Kolar Gold Fields it is rapidly increasing. For the past week 2228 deaths have occurred in the Bombay Presidency, of which number 543 are recorded for Bombay city. 1000 would more nearly be the correct number. An examination of the excess of deaths over the average of the three years preceding the plague outbreak shows that in Bombay city probably over 60,000 persons have died from plague. The official figures, however, are much lower.

The Indian Subordinate Medical Department is admittedly undermanned, the members bear great responsibilities and the work is onerous, but the Government of India has sanctioned a scheme of changes in the conditions of service of the members of its Military Assistant Surgeon Branch. Excluding the commissioned ranks, military assistant surgeons are divided at present into the following classes: Third class, Rs. 50 per mensem; second class, under five years' service, Rs. 85 per mensem; second class, above five years' service, Rs. 100 per mensem; first class, under five years' service, Rs. 150 per mensem; first class, above five years' service, Rs. 200 per mensem. The service will henceforth be divided into four classes on the following rates of pay, the existing class on Rs. 50 being abolished: Fourth class, Rs. 85 per mensem; third class, Rs. 110 per mensem; second class, Rs. 150 per mensem; first class, Rs. 200 per mensem. In lieu of the present system of promotions to fill vacancies in each class a service of five years in the fourth class and of seven years in the third and second classes respectively will entitle an assistant surgeon to promotion to the next higher class. He will thus ordinarily reach the first class on Rs. 200 after a total service of 19 years, instead of 24 years, the present average. These new regulations will have effect from the commencement of the next financial year. This department is largely recruited from the Eurasian sons of European warrant and non-commissioned officers, and it offers a very fair career for them. The *personnel* of the department being scanty the work is laborious. It is said that in every military hospital two men are doing the work of three. Very little leave also is obtainable. On the whole, however, the service is a satisfactory one.

Plague shows no signs of abatement in Hyderabad territory, but fortunately its ravages are exclusively confined to remote villages. It is said that very strict measures are being adopted with the hope of preventing its incursion into Hyderabad city. Official opposition to inoculation is still very pronounced. In consequence [illegible] of [illegible]les of the prophylactic which were [illegible] been found to have gone ba[illegible] there have thought fit [illegible] cop[illegible] and to describe Haffkine's fluid as "a putrescent organic liquid." They appear to shut their eyes to the results obtained elsewhere, but deign to withhold their opposition to the use of it after it has been sterilised in the laboratory of the Hyderabad Medical School. The preparation, storage, and distribution of this material doubtless require very great care and it is known that occasionally a bottle of it has been found to have undergone change. The fault, however, does not necessarily lie with the distributing laboratory in Bombay and it is quite possible that scientific precautions may not have been exercised in its use. To tamper with it in the Medical School at Hyderabad is wholly unjustifiable. Specimens as to which any doubt exists should be discarded. Studious precautions are practised in the laboratory at Bombay and the fluid is sent out fit for employment. There have been very few untoward results following its use. With some operators abscesses are not uncommon but there is every reason to believe that they are avoidable. At any rate, the fault does not necessarily lie with the serum. With regard to the prophylactic serum your readers will find further particulars in THE LANCET.[1]

Feb. 11th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Measles and the School Board.

AT the meeting of the Manchester School Board a fortnight since great dissatisfaction was expressed at the action of the Sanitary Committee of the corporation with regard to measles. A report was presented by the Office Committee as to the closing of the schools by order of the Sanitary Committee of the City Council on account of the prevalence of measles and the serious effect such action was having on the school attendance. During 1897 no less than 39 schools, of which 24 were voluntary schools, were closed. In Manchester the rule at present is for the medical officer to close a school when the actual cases of measles exceed 10 per cent. of the average attendance, and this, the report urged, was going beyond the recommendation of the Local Government Board. It was contended also that schools were being closed as a matter of routine and unsuccessfully as regards preventing the propagation of disease. It was stated that in Birmingham, Bristol, Huddersfield, Hull, Liverpool, Salford, and Sheffield schools were not closed on account of the prevalence of measles and nowhere did the practice obtain to anything like the extent which it did in Manchester. The disease has been very prevalent here of late years and "the attempt to cope with the disease by the frequent closing of schools had not succeeded." A circular issued by the medical officer of health, dated Feb. 16th, recommending the exclusion from school "of every child showing symptoms of a cold" would, if acted on, the report held, in inclement weather nearly empty the schools. The report said that "in the opinion of the committee the solution of the problem of how to prevent the spread of epidemic sickness in schools lay in the rigid exclusion of individual cases." The prevention of the spread of measles will certainly require the harmonious working and the best efforts both of the board and the medical officer. The chairman of the board deplored any conflict with the sanitary authority but "maintained that it was the duty of the board to ascertain from the Education Department and the Local Government Board" the right course to take.

Generous Offer to the Manchester Hospital for Consumption.

At the annual meeting of the Manchester Hospital for Consumption and Diseases of the Chest and Throat, held in the town-hall on Feb. 22nd, the medical board reported that in the out-patient department there were 33,684 attendances, the number of new patients being 10,914. The 50 beds at the Bowdon Hospital for in-patients were constantly occupied and "before many months passed it was anticipated that the Liegehallen system of open-air treatment would be in full working order." The Lord Mayor, in moving the adoption of the report, said that they were doing their best in Manchester to prevent the sale of milk from tuberculous cows and had inserted clauses in the Corporation Bill for that purpose, and as Lord Mayor he should make it his duty to see how far they could carry the clauses in question. Dr. A. Ransome, now of Bournemouth but formerly one of the staff of the hospital, gave an address on the Prospect of Abolishing Tuberculosis, in the course of which he said that the disease was to be abolished "by stopping the presence of the seed by taking care that no susceptible persons should be found in the community, and, above all, by rooting out what he had ventured to call tubercle nests in all great towns and especially, he was sorry to say, in Manchester. Practically, then, they would have to renovate the town." He wished the admirable by-laws of Liverpool and London dealing with obstructions of light could be adopted for Manchester. The gradual renovation of the town can be brought about if the requisite money can be found, but the getting rid of the susceptibility to tuberculosis is a more difficult matter, for the human factor comes in with its varying degrees of ignorance, stupidity, and helplessness. Mr. W. I. Crossley, chairman of the board, in moving a vote of thanks to the Lord Mayor and the Lady Mayoress said that they had 50 beds at Bowdon but there was no room for more, "therefore it was proposed that 100 beds should be put up elsewhere and money was offered for that purpose if Manchester would guarantee to support the beds." It is an open secret that the chairman himself makes this munificent offer to build a hospital of 100 beds if Manchester will maintain it, and surely the citizens who can easily raise the £3000 or £4000 a year required will not fail to provide what will be paid back in the increased health and well-being of the community.

A Tragedy Averted.

It rarely happens that anything humorous lights up the gloom of attempted suicide; but yesterday at the Manchester police-court a man was brought up who after a quarrel with his wife sent a son for sixpennyworth of carbolic acid which was refused to him. He was then sent for sixpennyworth of chlorodyne but with the same result. The prisoner then went himself to the druggist's shop and asked for sixpennyworth of chlorodyne but received instead a bottle containing a halfpennyworth of carbolic acid with a liberal quantity of water. The man went home, took the dose, and kissed two sons, saying that he was leaving them as he had taken poison. Then he kissed his wife who was brought in from a neighbour's house and bade her good-bye. He refused to take an emetic and the policeman who was called in thought he was "rather lively" for one who had taken poison. When asked he said that he had taken "sixpennyworth of chloride of lime." The prisoner had taken a little drink as well as a little poison. The druggist whose suspicions had been roused by a young boy coming for carbolic acid and then for chlorodyne was complimented by the bench on his shrewdness and the prisoner was remanded for some days to give him time for reflection.

March 7th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

St. Andrews University.

MR. T. G. NASMYTH, M.D. Edin., D.Sc., D.P.H., medical officer of health of Fifeshire, has been appointed examiner in Public Health for St. Andrews University.

The Will of the late Professor Rutherford.

Professor Rutherford in his will bequeaths to the Medical Faculty of the Senatus of the Edinburgh University his portrait on porcelain by Barraud and Jerrard; to the Senatus Academicus all the diagrams used by him in the physiological department, to remain in that department in charge of the Professor of Physiology, and also all his books and journals relating to physiology, histology, anatomy, chemistry, physics, natural philosophy, and pathology, on condition that they are to be placed in the physiological department in charge of the Professor of Physiology or Institutes of Medicine to assist him in the work of teaching and examination.

Edinburgh Royal Infirmary.

At the weekly meeting of the managers of the Edinburgh

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[1] THE LANCET, Feb. 27th, 1897, p. 604; March 13th, 1897, p. 767; March 27th, 1897, p. 907; April 3rd, 1897, pp. 976, 981; July 24th, 1897, p. 225; August 7th, 1897, p. 333; and Dec. 11th, 1897, p. 1546.

Royal Infirmary, held on March 6th, Mr. James Dunsmure, F.R.C.S. Edin., took his seat as a representative from the Royal College of Surgeons on the Board of Management, in room of the late Sir John Struthers.

The Chair of Physiology in Edinburgh University.

The curators in whom the patronage of the chair of Physiology in Edinburgh University is vested are inviting applications for the chair which has been rendered vacant by the death of Professor Rutherford. Candidates are requested to lodge their applications and eight copies of their testimonials with the clerk to the curators, Mr. R. Herbert Johnston, W.S., 66, Frederick-street, Edinburgh, not later than Saturday, May 20th next. One copy of the application should be signed. The election will be made on a date to be afterwards fixed.

The late Dr. John Stuart Smith.

The death is announced on March 1st at his residence in Edinburgh of Dr. John Stuart Smith, retired Surgeon-Major, Army Medical Department, at the age of 84 years. Dr. Smith was an elder brother of Lord Strathcona and Mount Royal. He retired from active service about 35 years ago. He was educated at Aberdeen University, where he graduated in arts, and in the University of Edinburgh where he obtained his degree in medicine. He then entered the Army Medical Department and served twice in India and in the first Chinese War, being present at the taking of Canton. He served in Ireland during the time of the typhus fever epidemics in 1847 and 1848. He also had principal medical charge in New Zealand during the Maori War.

Church of Scotland Deaconesses' Hospital.

The fourth annual meeting of the contributors and friends of the Church of Scotland Deaconesses' Hospital was held in Edinburgh on March 1st. The report stated that the accommodation consisted of 24 beds in all. The number of patients treated during the year was 333, as against 264 in 1897. The average daily number under treatment was 23. In all 179 operations had been performed by the surgeon-ordinary, the extra physician for diseases of women, and the extra surgeons for diseases of the ear and throat and eye, and no deaths had resulted. The accounts showed a balance in hand of £207 5*s*. 7*d*.

Edinburgh University Honorary Degrees.

At a meeting of the Senatus Academicus on March 4th the Senatus resolved to confer the honorary degree of Doctor of Laws on the Right Hon. Lord Balfour of Burleigh, Secretary for Scotland, Lord Rector of the University of Edinburgh, on March 14th, the occasion of the Lord Rector's address, and at the graduation ceremonial on April 14th on several other eminent persons, among them Mr. William Mitchell Banks, M.D. Edin., F.R.C.S. Eng.

Academic Honours to Medical Men.

Among those who are to receive the honorary degree of LL.D. from the University of Aberdeen are Mr. James Frederick Goodhart, M.D., F.R.C.P. Lond., and Mr. Charles Stewart, M.R.C.S. Eng., F.R.S., Conservator of the Museum of the Royal College of Surgeons of England.

March 8th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irish Poor-law Medical Service.

A SERIES of rules under the new Local Government Act affecting the Irish dispensary medical service was published in the *Dublin Gazette* of March 3rd. Important innovations are made in the system of granting medical relief tickets and the payment of salaries during incapacity from illness is placed on a satisfactory footing. Only guardians, relieving officers, and wardens appointed by the guardians will be empowered to issue relief tickets and they may not delegate that power to others nor may they sign tickets in blank and leave them to be filled up by others. Provision is made for establishing a reduced scale of medical fees for poor persons unable to pay the usual fees. During the illness of a medical officer the guardians must pay to his substitute such remuneration for his services as the Local Government Board may approve or direct. Continuous sick leave on full salary may be granted to a medical officer for six months, after which he may be allowed salary for a further period of six months at not more than half the ordinary rate.

Health of Belfast.

At the meeting of the city council held on March 1st it was reported that in the past four weeks 229 cases of zymotic disease had been notified, 56 of scarlet fever, 54 of typhoid fever, 41 each of simple continued fever and erysipelas, 25 of diphtheria, six of membranous croup, five of puerperal fever, and one of typhus fever. There were 65 deaths from zymotic disease, 93 from phthisis, and 167 from respiratory diseases. The annual death-rate was 25·1 per 1000. The outbreak of typhoid fever has died out and the disease has again assumed the normal level which seems to be persistent in Belfast. 54 cases have been notified in the month, against 222 in the corresponding month of last year, and the deaths were 10, as compared with 27 last month. Measles, scarlet fever, and influenza are also very prevalent.

"The University Education Question in Ireland."

Professor Whitla, Professor of Materia Medica in Queen's College, Belfast, has published through Messrs. Strain and Sons at the modest price of 6*d*. a very clear little pamphlet with this title. All who want to understand the "ins" and "outs" of a very difficult matter should read what Professor Whitla has to say.

The Ulster Medical Society.

The March meeting of the Ulster Medical Society was held on the 2nd inst. in the anatomical department of Queen's College, Belfast. In the large room of the anatomical school a typical collection of fractures from the medical museum was placed, as well as specimens illustrating surgical pathology and deformities and medical pathology. The most valuable demonstration of the evening was that given by Professor Symington and his assistant, Dr. Johnstone, on "The Topographical Anatomy of the Thoracic and Abdominal Viscera." Two cadavers (male and female) have since November been carefully prepared and hardened in formol and so deftly manipulated that the various organs can one by one be removed and replaced again so that a most extraordinary and vivid idea can be given of the whole body or of any separate region of the chest or abdomen. Finally, Dr. Johnstone read a paper on Two Fœtal Monsters and Professor Symington illustrated by diagrams a Comparison of the Pelvic Viscera and the Pelvic Floor in Two Adult Male Subjects.

Death of Mr. P. J. O'Hara, M.D. R.U.I., Ballymena.

I regret to announce the death of Dr. O'Hara which took place on Feb. 28th at the residence of his father at Ballylesson, Ballymena. Dr. O'Hara, after studying at Queen's College, Cork, and in Dublin, graduated M.D. of the Royal University of Ireland in 1884 and shortly afterwards settled down in his native district, Ballymena, where he gained a large and lucrative practice. He was a skilful physician and a great favourite and his death is much deplored in Ballymena.

The Royal Victoria Hospital, Belfast.

For some time past Mr. Henman (of Birmingham), the architect, and the staff of the Royal Hospital have been holding consultations in reference to the plans of the new Royal Victoria Hospital and, although matters are not finally settled, the principles of its construction are in the main agreed upon. It is to be heated and ventilated on the "plenum" system and the wards are to be one storey in height.

The Water-supply of Cork.

The water-supply of Cork has been seriously impeached, apparently on good grounds, by Mr. H. W. Hunter in a letter to the *Cork Constitution*. That journal in a leading article calls upon the corporation of the city to hold a searching inquiry into the matter.

March 8th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Hospital Abuse in Paris.

AT a meeting of the [illegible] ...ntly held Dr. Le Blond proposed [illegible] submitted to the Superior [illegible] —

1. The hospital shall [illegible]
2. Hospital treatment [illegible]

domestic servants, workmen, and employés whose wages do not exceed a certain sum to be hereafter determined. 3. No one whose rent exceeds in Paris 1000 francs or who pays rates shall be entitled to benefit by the services of a hospital. Exceptions may be made in the case of those who after a searching inquiry are found to be incapable of paying for a serious operation at the usual fees. 4. In every district shall be nominated one or two charitable persons whose duty it shall be to make inquiry into every case before such case be admitted to the hospital and to whom every patient desirous of entering a hospital must apply. 5. The medical men attached to the charitable organisations of every quarter shall have the right to give out admission tickets to hospitals if in their opinion the patient is really poor and unable to be properly cared for at home. Such an admission ticket shall be followed up by an inquiry into the merits of the case. 6. No sick person shall be admitted at once into a hospital without inquiry except in the case of an emergency.

Prognosis in Erysipelas by Examination of the Blood.

Speaking at the meeting of the Society of Biology held on Feb. 18th M. Chantemesse took occasion to remark that there existed hardly any clinical signs by which could be diagnosed the course of an attack of erysipelas, whether it would resolve or whether, if once resolved, a relapse would follow. Examination of the blood in erysipelas, whether made during an attack or during the period of convalescence, furnished valuable information upon this matter. *The curve of the number of leucocytes* in a case of erysipelas followed very closely that of the temperature, but this leucocytosis did not show equally throughout the various blood elements. There were polynucleated cells which showed an increase as soon as the malady was established, while at the same time the number of mononucleated cells diminished, such diminution occurring chiefly in the lymphocytes. When recovery took place it was signalised by a fall in the number of polynucleated cells. The eosinophile cells which fell in number during the course of the illness only appeared again when the blood infection was altogether at an end. M. Chantemesse had noticed that sundry suppurative affections which appeared in the course of erysipelas were generally of favourable import, for he had often noticed patients with erysipelas recover who had suffered from this complication. M. Malassez stated that some time ago he had occasion to examine the blood in a number of cases of erysipelas. He had always noticed profuse leucocytosis and the formation of an abscess in such patients produced a veritable shower of white corpuscles. M. Vagnez said that he had often been able to prognose septic affections by finding marked leucocytosis in patients who were under treatment.

The Water-borne Origin of Enteric Fever.

At the meeting of the Society of Biology held on Feb. 28th MM. Ch. Nicolle and G. Spilman communicated a paper upon the Importance of the rôle played by Drinking Water in the Etiology of Enteric Fever. A very considerable number of facts went to support this theory. The observers thought that one very striking example which they were able to bring forward had not yet been made public. The town of Falaise possesses an excellent supply of drinking-water of which a battalion of infantry forming the town garrison partook. Enteric fever is very rare among the men forming this garrison, there having been only four cases in 10 years—namely, two in 1889, one in 1891, and one in 1892. At the close of last year, however, there were many interruptions to the supply of water to the barracks; three times was the supply interrupted between Dec. 8th and 15th and once between Dec. 22nd and 25th. Fatigue parties were sent out to the various hydrants of the town to bring in water. Some of these fatigue parties, however, instead of going to the appointed places for their water—places which had been very carefully chosen—preferred, because it was not so far to go, to get water from two wells, the water of which, manifestly polluted by certain cesspools in the neighbourhood which had not been emptied, had not been used by the civil population for a very long time. As a consequence four cases of enteric fever appeared, the diagnosis being verified by the serum test. The first appeared on Dec. 27th, the second on Dec. 28th, and the two remaining ones on Jan. 3rd. None of the men attacked had been on leave for a long time. Two others were admitted into hospital at the same date with the same symptoms, but the diagnosis was not confirmed when the cases were submitted to the serum test. Working with these facts as a basis Dr. Loustalot, the surgeon-major, examined some samples from the wells in question in the bacteriological laboratory of the Rouen School of Medicine. Here, following the method of Elsner, he had no difficulty in isolating from the water of one well the bacillus typhosus together with another bacillus very similar to the first but differing from it in that it gave no agglutinative reaction with the serum of animals inoculated with an undoubted enteric culture. In the water of the second well only the bacterium coli was found. It was difficult to understand the part played by the bacillus which is so like the real bacillus typhosus. So close is the resemblance that but for the serum test it would certainly have been called a real bacillus typhosus. Possibly there is some relation between this microbe and the two doubtful cases of enteric fever in which the serum test gave a negative result. If it had been wished to experiment upon human beings as to the part played by water in the distribution of typhoid fever one could not have a more striking result from experiment than the condition of matters at Falaise.

March 7th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Cultivation of the Enteric Fever Bacillus.

A NEW method available in the diagnosis of enteric fever has been described by Dr. Piorkowski at a meeting of the Berlin Medical Society. In 1898 he discovered that a marked difference existed between a colony of bacterium coli and one of the enteric fever bacillus, for the former grew in gelatin with a distinct edge whilst the latter showed irregular radiations. From a practical point of view it was, however, a disadvantage that these differences were visible only *after 48 hours. Dr. Piorkowski has now succeeded in* accelerating this development by using media containing only a very small amount of gelatin. The culture medium used by him is composed as follows: urine two days old which has become alkaline and has a specific gravity of 1020 is mixed with 0·5 per cent. of peptone and 3·3 per cent. of gelatin, boiled in a water-bath, and filtered. After being run into glass tubes it is sterilised for 15 minutes and on the following day again for 10 minutes at a temperature of 100° C. In this culture-medium the bacterium coli appears after 20 hours in round, yellow, fine-grained and sharply-defined colonies, whilst enteric fever bacilli show a peculiar arrangement in the form of tendril-like figures somewhat similar to spirochætæ and quite different from the colonies of bacterium coli. These characteristic signs, however, appear only in the above culture medium; on 10 per cent. normal gelatin no difference between the two species of bacteria was visible. In test tubes containing the above urine-gelatin the colony of bacterium coli appears in a fine grey-white line and grows largely on the surface of the gelatin; enteric fever bacilli only grow within the gelatin and not on the surface. The same differences appeared whether specimens were taken from water artificially infected with bacilli or from the fæces of patients. In one case the characteristic symptoms described by Dr. Piorkowski were present, whilst Widal's reaction was not obtained.

A Congress on Tuberculosis.

A congress to discuss measures against tuberculosis will be held at Berlin from May 24th to 27th under the patronage of the German Empress and under the honorary presidency of Prince Hohenlohe, the Imperial Chancellor. The subjects of discussion will be: (1) Spread of the Disease, to be introduced by Dr. Köhler, Director of the Imperial Health Office, and Dr. Krieger, chief of the Medical Department of Alsace-Lorraine; (2) Etiology, by Professor Koch and Professor Fränkel; (3) Prophylaxis, by Professor Gerhardt and Dr. Schjerning, of the Medical Department of the War Office; (4) Treatment, by Professor Ziemssen of Munich and Professor *von Schrötter of Vienna*; and (5) Sanatoria, by Dr. Dettweiler of Falkenstein and Dr. Gaebel, director of the Imperial Insurance Office. The Governments of the States of the German Empire, the municipal authorities of the greater towns of Germany, the medical corporations, the employers' associations, the medical faculties of the German universities, and other bodies have been invited to send representatives to the congress. The Presidents of the congress are the Duke of Ratibor and *Professor von Leyden.* The committee consists of a great many distinguished medical men and philanthropists, among whom may be mentioned Professor Koch and Professor Gerhardt of Berlin, Professor Ziemssen of Munich, Professor Flugge of Breslau, Professor Liebermeister of Tübingen, and others

A Female Doctor of Philosophy of Berlin University.

An event for ever memorable in the history of Berlin University happened on Feb 18th, when for the first time academical honours were conferred upon a lady, Fraulein Neumann, who was created Doctor of Philosophy. During the last few years the Government and the University authorities have shown themselves not unwilling to admit females to academical studies, but a good many difficulties due to the regulations at that time existing had to be overcome before the new "doctor' could attain the object of her ambition The graduation ceremonial drew an enormous audience, so that the *aula magna* of the University was overcrowded long before the commencement of the proceedings It was obviously not by interest in the "dissertation' that so many people were attracted, and the majority of the audience were hardly likely to understand much about the "disputation" in matters of philosophy, physics, and mathematics Most of those present were evidently moved by mere curiosity to see a lady taking the principal part in the quaint usages of a university graduation and were not a little astonished to hear her disputing without any embarrassment against her "opponents,' of whom two were men and one was a lady doctor of a Swiss university After the 'disputation" was finished the dean, Professor Schwarz, addressed the meeting, pointing out the exceptional interest of this occasion on which academical honours were for the first time in the history of the University granted to a candidate of the female sex He congratulated the University authorities on their attitude towards the question of female education and the candidate on her perseverance After this speech he proceeded to confer the degree in the customary manner and the new "doctor" was received by the audience with loud applause A further proof of the change which is coming over public opinion with reference to the higher education of women is furnished by the intention of the Government to admit women to the examinations for medical qualifications Some periodicals have reported that this question will be decided in connexion with the forthcoming alterations in the State examinations in medicine, notwithstanding the opposition of leading medical men An evidence of unfriendliness to medical women was recently given by the committee of the Berlin Medical Society A medical woman in Berlin, qualified in Switzerland, made an application to be received as a member but was refused by the committee presided over by Professor Virchow because the regulations of the society were considered to preclude the admission of female members Two members of the society then moved that the regulations should be altered, but the committee refused to support the motion and when it was again brought before the committee it was once more rejected, so that according to the rules of the society the question must now be postponed for a year

March 6th

ROME.

(FROM OUR OWN CORRESPONDENT.)

The Health of Leo XIII.

"VENI, vidi, vici, Professor Mazzoni is entitled to say considering the promptitude with which his august patient has responded to his surgical intervention The incidents preceding and attending this the sharpest curve yet described by the comparatively even tenour of the Pontiff s health are soon told For two years past he has suffered with progressive frequency from intestinal catarrh of a mild description, from occasional winter "raffreddori" (colds), and now and again from vertigo, but it was only quite lately that his body physician, Dr Lapponi, had to accentuate his precautions and impose a peremptory restriction on the number and duration of his receptions Among other ceremonies of this kind the audience fixed for the Princess of Sweden had to be postponed, but the rest and relaxation from official strain soon told and for about a fortnight thereafter the Pope was as accessible as ever, while the magnificent weather at the close of February tempted him out into the Vatican Gardens On Sunday, Feb 26th, however, after celebrating mass in his private chapel, he complained of slight malaise and loss of appetite, whereupon Dr Lapponi concluding that it was one of the usual "raffreddori" caught during the garden exercise, prescribed repose In the evening the pulse was regular, but the skin was dry On the next day it was deemed advisable to keep the patient in bed till on Tuesday morning, the febricula returned contemporaneously with pain in the axilla. A minute general examination thereafter disclosed some inflammation of an old cyst in the left lumbar region—a cyst of the size of a turkey's egg, hæmatic in nature and hitherto so quiescent as hardly to give notice of its presence Immediately Professor Mazzoni was called in with the Pope s sanction (quite necessary to obtain under existing relations between the Vatican and non clerical Rome) and removal of the cyst was proposed and agreed to The Pope, with a deprecatory smile, asked "E dunque necessario tagliare questa amica cistr che ho con me da tanti anni?" (Is it necessary to apply the knife to this friendly cyst which I have had about me for so many years?) and the pleasantry with the pluck which it implied helped to reassure the operator in dealing with a nonagenarian Enucleation was performed without chloroform but with such local anæsthesia as was possible and during the operation the Pontiff gave only three half audible groans, ending in "basta, basta" (enough, enough) when the encapsuled tumour was finally removed The after treatment was equally successful and the last bulletin announced full convalescence, all the symptoms being satisfactory What rendered surgical intervention necessary, and that immediately, was the incipient inflammation manifest in the cyst and the danger of its contents, so modified, finding their way into the circulation with peradventure toxic results Another consideration counselling prompt interference was the patient's 89 winters, there was not an hour to lose. His energetic will was in his favour and this—not the blunted sensibility of old age—explains the absence, nearly perfect, of all expression of pain in a very partially anæsthetised patient But that energy was more mental than physical and there is no saying how soon it also may have collapsed, had the inflammatory condition of the cyst been allowed to extend It may interest your readers to know that Professor Gaetano Mazzoni is a *privat-docent* in special pathology in the University of Rome and "chirurgo primario" in the San Giovanni Hospital He is a nephew of the great Roman surgeon Costanzo Mazzoni—a teacher and operator of European fame—of whom THE LANCET gave an extended obituary notice in 1885 '

Undergraduate Mutiny in the University of Turin

The riots at Palermo and Naples to which I referred on Jan 28th have had their counterpart in Turin, where the military arm has had to be invoked and many students have been arrested The cause of this most unseemly outbreak resolves itself into the dissatisfaction of the medical undergraduates, mostly those of the second, third, and even fourth years, at the appointment of Professor Fusari to the chair of Anatomy This gentleman, with every scientific qualification for the post including an admirable record as a teacher, was, it seems, the reverse of a *persona grata* to the students whose preferences were all for another; but the authorities kept true to their original choice which His Excellency Dr Baccelli Minister of Public Instruction, confirmed Ever since the University has been in a ferment. Professor Fusari has been boycotted; he has also been violently interrupted in his prelections and no insult or contumacious demonstration on the part of his young adversaries has been spared him Matters came to a head on Saturday, Feb 25th, when Professor Fusari was engaged with a class of first year s students who had the courage to attend The rebellious majority, many of them at a stage of their curriculum when a steadier, more dignified demeanour might have been expected, proceeded to interrupt the lecture. Foiled in their attempt to get into the room they tried to rescue their ringleader and laid violent hands on the vice inspector of the public force The captain of carabineers then fired a revolver in the air which brought up reinforcements, whereupon the rioters fled, leaving three of their number prisoners Later in the afternoon an attempt to rescue these resulted in more arrests By this time the Bersaglieri (a crack infantry regiment) came up, followed by another flight of the rioters and still further arrests—those arrested, like their predecessors, being accommod [illegible] w [illegible] lodgings" [illegible] the judiciary prisons. Those students who are still at large were, when last heard of, patrolling the streets in a heavy snowstorm, invading the newspaper offices, and generally making themselves and their "grievances" known. Dr. Baccelli is at the moment engaged in examining the circumstances of the riots with a view to inflicting disciplinary penalties on their authors. He will have the sympathy of all loving Italian learning and professional decorum if his action is "short, sharp, and decisive."

March 7th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Treatment of Typhoid Fever.

AT a recent meeting of the Wiener Medicinisches Doctoren-collegium Dr. V. Jez described the mode of preparation and the action of the "antityphoid extract" prepared by himself. Rabbits after being made highly immune by intra-peritoneal injections of bouillon-cultures of the typhoid bacillus are killed, and the thymus gland, spleen, bone-marrow, brain, and spinal cord are rubbed up together with a solution of common salt, alcohol, and glycerine, a small quantity of carbolic acid and of pepsine being added. The liquid thus obtained is put on ice for 24 hours and after filtration yields a reddish liquid which is by Dr. Jez called "antityphoid extract." It is administered internally in doses of from 20 to 30 grammes (from three-quarters of an ounce to one ounce) every two hours in cases of typhoid fever. Dr. Jez has treated 18 cases of typhoid fever with this remedy and he states that he obtained very favourable results from its use. The temperature curves lose their typical character and the fever shows remissions under the use of the extract; at the same time the pulse becomes better and apyrexia sets in very soon. Dr. Jez states that the use of this remedy is not attended with any inconvenience. If further trials of this extract should confirm these results it would be very interesting from a theoretical point of view because this extract would be the first antitoxic remedy which would act from the intestinal tract and would show in this respect a similarity with the organic extracts prepared from the thyroid or from the suprarenal glands.

Infection and Blood-pressure.

In a preliminary communication recently made to the Gesellschaft der Aerzte of Vienna Dr. Federn drew attention to the influence of the infective process on the blood-pressure, an influence which is very marked in malaria and in scarlet fever. According to his researches rise of temperature has no influence on the blood-pressure unless it is associated with the diseases mentioned. He believes that a high blood-pressure may be regarded as a diagnostic means corroborative of scarlet fever in doubtful cases, as this symptom is absent in other febrile diseases and that it has some connexion with the infection itself.

The Sale of Organo-therapeutic Remedies.

The Government has recently issued an order prohibiting the sale of organo-therapeutic preparations by druggists unless they are prescribed by a medical practitioner. At the same time the druggists have been advised to buy such preparations only from reliable manufacturers. I am informed that this measure was due to the increasing tendency of the public to make use of thyroid extracts and similar remedies without medical advice, a practice which has led to some serious accidents on account of too large doses having been taken. A second motive for this order which will meet with the approval of the medical profession lies in the fact that it is very difficult to ascertain whether an organo-therapeutic preparation really contains the active principles which it should contain, as there are no simple chemical tests to prove or disprove the statements made by manufacturers regarding the composition and the value of their products.

March 6th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Forcible Introduction of Sanitary Reforms into Cuba.

THE Special United States Commissioner who has been almost continuously in Cuba in an official capacity since hostilities were suspended, says that in Santiago may be seen in full operation the work which the Government of the United States has been impelled to undertake. Here may be studied the character of the forces upon which the people of the United States must rely in the work of reconstruction now in progress. The machinery of government is running with a fair degree of smoothness, and the men responsible for it, from the humblest official to the commander of the province, understand their business and are masters of the situation. The disagreeable smells of the typical Cuban city are less pronounced in Santiago, while whitewash, limewash, fresh paint, and all sorts of disinfectants have deodorised the surrounding atmosphere and made the old town habitable. The streets are no longer used as sewers, and the unhappy individual who violates the law and escapes the lash of the sanitarian's whip is compelled to work on the streets for 30 days. This official and his 106 men dressed in spotless white and 32 good United States mule teams and carts have dug out from the streets of Santiago the filth of ages and are now able to keep them clean. Every day, by the aid of that great disinfectant petroleum, the garbage of the city is burned. The work of sanitation is not confined to the streets, but it extends to the dwelling-houses, the shops, and buildings of all kinds. Indeed, the campaign against dirt and disease has been as sharp and hot as the charge on San Juan Hill, and it has been equally productive of results. The resistance on the part of the inhabitants is quite as stubborn, perhaps more so, than that of the Spanish soldiers to the American forces around Santiago. The doors of houses had to be smashed in; people making sewers of the public thoroughfares were publicly horsewhipped in the streets of Santiago; and eminently respectable citizens were forcibly brought before the commanding general and sentenced to aid in cleaning the streets which they were in the habit of defiling. The campaign ended in complete surrender to the authorities, and the inhabitants of Santiago, regardless of class, have had their first object-lesson in the new order of things introduced by the war. On looking backward five months, picturing Santiago in July and comparing it with the more hopeful condition existing on all sides at the present moment, it is easy to see the omens which point to the coming prosperity of the whole island under intelligent and honest government.

The New York State Board of Medical Examiners.

The report of a committee states that of the 809 applicants before the Board, representing the State society, 29·9 per cent. were refused. The rejections by topics were: anatomy, 55; physiology and hygiene, 41; chemistry, 67; surgery, 54; obstetrics, 62; pathology and diagnosis, 68; therapeutics, practice, and materia medica, 78. Among the New York graduates there was one for every three students. It was evident that these schools graduated better qualified men than other similar institutions in the United States. It had been decided to hold hereafter only four examinations instead of five each year. The faculties of the various medical schools had been asked to furnish 30 questions on every branch taught in these schools for the use of the question committee. It had been proposed to alter somewhat the plan of examinations—viz., separating pathology and diagnosis, divorcing medical practice from materia medica and therapeutics, and grouping on one sheet questions on chemistry and hygiene.

The Report of the Commission on the Conduct of the War.

The following is a summary of the finding of the Commission as to the Army Medical Department: At the outbreak of the war the medical department was, as to men and materials, altogether unprepared to meet the necessities of the army called out. As the result of a generation of contracted and contracting methods of administration it was impossible for the department to operate largely, freely, and without due regard to cost. In the absence of a special corps of inspectors and the apparent infrequency of inspections by chief surgeons and of official reports of the state of things in camps and hospitals there was not such investigation of the sanitary conditions of the army as is the first duty imposed upon the department by the regulations. The nursing force during the months of May, June, and July was neither ample nor efficient—reasons for which may be found in the lack of a proper volunteer hospital corps, due to the failure of Congress to authorise its establishment and to the non-recognition in the beginning of the value of women nurses and of the extent to which their services could be secured. The demand made upon the resources of the department in the care of the sick and wounded was very much greater than had been expected and consequently in like proportion these demands were imperfectly met. The department being powerless to transfer supplies from point to point except through the Quartermaster's Department, it was seriously crippled in its efforts to fulfil the regulation duty of "furnishing all medical hospital supplies." Shortcomings in administration and operation may justly be attributed in large measure to the hurry and confusion incident to the assembling of an army of untrained officers and men, 10 times larger than before, for which no preparation in advance had been or could be made because of existing rules and regulations. Notwithstanding all the errors of omission rather than commission which were manifest, a vast amount of good work was done by medical officers, high and low, regular and volunteer, and there were usually few deaths among the sick and wounded.

Reserve Corps of Nurses Needed.

The Army Investigating Committee recommend the following improvements in the medical service: A larger force of commissioned medical officers; authority to establish in time of war a proper volunteer hospital corps and a reserve corps of selected trained women nurses, ready to serve when necessity shall arise but under ordinary circumstances owing no duty to the War Department except to report their residence at determined intervals; a year's supply for an army of at least four times its actual strength of all such medicines, hospital furniture, and stores as are not materially damaged by keeping, to be held constantly on hand in the medical supply depôts; the charge of transportation to such extent as will secure prompt shipment and ready delivery of all medical supplies; the simplification of administrative "paper work" so that medical officers may be able to discharge their sanitary and strictly medical duties; and the securing of such legislation as will authorise all surgeons in medical charge of troops, hospitals, transports, trains, and independent commands to draw from the Subsistence Department funds for the purchase of such articles as may be necessary to the proper treatment of soldiers too sick to use the regular army rations—this to take the place of all commutation of rations of the sick now authorised. Convalescent soldiers travelling on furlough should be furnished with transportation, sleeping-berths, or state-rooms, and $1.50 per diem for subsistence in lieu of rations, the soldier not to be held accountable for this amount.

State Care of Consumptives.

At the recent meeting of the New York State Medical Society a resolution was passed urging the present legislature to adopt a measure for the establishment of a State hospital for consumptives. It appears that 13,000 lives are lost annually in the State of New York from pulmonary tuberculosis. Only one State in the Union—namely, Massachusetts—has a State hospital for consumptives. It was urged that ideal isolation can only be secured by State care, and that segregation should be employed among the poor by establishing special hospitals near the large centres of population. Thus far the cottage plan of treatment in the Adirondack Mountains in the northern part of the State has proved most successful and it is in this region that it is proposed to establish the State hospital for this class.

Feb. 19th.

NEW ZEALAND.

(FROM OUR OWN CORRESPONDENT.)

The Annual Meeting of the New Zealand Branch of the British Medical Association.

THE annual meeting of the above association commenced its sittings in Auckland on Jan. 3rd and terminated on Jan. 10th. The members met in the large room connected with the University College buildings which had been kindly placed at the disposal of the Auckland section. The gathering was under the presidency of Dr. Scott, while Mr. Hope Lewis acted as president of the local branch and Dr. Pabst as secretary for the annual meeting.

The city was besieged with visitors from all parts of New Zealand. Accommodation was consequently extremely difficult to obtain and prices as a result ranged high. Other attractions were the Auckland Exhibition, which had been opened but a short time previously by his Excellency, Lord Ranfurly, and the fact that the Auckland Racing Club held its annual meeting during the conference week. Notwithstanding these additional allurements, the attendance of members at the medical conclave was not as numerous as had been anticipated, but it nevertheless brought together a fair sprinkling of medical men from the North Island. The members of the Auckland section made the visitors' stay in their city most enjoyable. Aided by perfect weather the latter were enabled to thoroughly appreciate all the outdoor relaxations which were available, and they were not a few.

Auckland is certainly from a picturesque point of view the most beautiful city in this colony. The glorious Hauraki Gulf studded with its fantastically shaped islands, the beautiful blue water, the magnificent foliage of native trees everywhere to be seen all tend to impress one most favourably. From the summit of Mount Eden (an extinct volcano) a view is obtained which stretches from the east to the west coast of the North Island and in my opinion is not to be surpassed for loveliness in the southern hemisphere, with perhaps the exception of the harbour of Vavau. Auckland was decked in its gayest apparel on the opening day of the medical meeting. The harbour was brilliant with bunting. A boat race took place in the afternoon between the Maories and the man-of-war's-men from H.M.S. *Tauranga* and *Royal Sovereign*. The Maories won easily and a war dance in honour of their victory concluded the day's sport.

The agenda paper, owing to unforeseen circumstances, had to be altered and accordingly Mr. Hope Lewis opened the meeting with an excellent paper on Cases of Abdominal Section—a paper characterised by methodical arrangement of the various types of cases and a carefully prepared description of the minor details associated with each case. These details of operative work were much appreciated and an interesting discussion ensued in which Dr. Graham Campbell, Dr Cleghorn, and Dr. Saunders took part. A hearty vote of thanks was accorded by the members present for the paper read.

On Wednesday evening the installation of the President for the ensuing year took place followed by the Presidential Address—a *précis* of which I append. The retiring President, Dr. Fell (Wellington) in vacating the chair thanked the members for their kindness during his term of office and at the same time paid a high tribute to the manner in which Dr. Graham Campbell (Christchurch) had carried out the duties of general secretary. There is no doubt that the medical profession of this colony is very much indebted to Dr. Campbell for the untiring industry which he has displayed since his election to this post. He certainly possesses all those qualities which tend to make an excellent secretary and he assuredly exercises those qualities in a most satisfactory manner.

Dr. Scott, the president for the coming term, then took the chair and delivered his inaugural address, his subject being Sanitation and the Public Health. At considerable length he enumerated and criticised the laws of Great Britain and the colony concerning public health and complained of the lack in New Zealand of administration and the want of a controlling and advising body, such as the central board was in Great Britain and should be in New Zealand. The President contended that the mode of appointment of health officers and inspectors of nuisances was in a very unsatisfactory state in the colony, because these appointments were not compulsory, were not subject to the approval of the Central Board of Health, and were not made under any regulation issued by that body, and the tenure of office was insecure. In concluding his address Dr. Scott said: "There is everywhere a lack of order and method and a want of unity in the management of sanitary affairs which have brought about the culpable laxity in administration. The remedies for such a state of affairs must necessarily be directed to the correction of the shortcomings of the laws and of their methods of administration. It is a recognised fact that no law can be efficiently carried into effect unless its value and importance are understood and appreciated; therefore, my first recommendation would be—educate the public by means of: 1. The instruction of the children in the State schools. This is being done to a slight extent in the primary schools, but it is remarkable that no such instruction is given in the secondary schools. 2. Through the formation of societies somewhat after the pattern of ambulance societies which would arrange for periodical lectures and demonstrations in sanitary matters. 3. Through the press, which would then in its reports of the foregoing even more freely than heretofore give its valuable aid in creating an interest in the subject. 4. Through the New Zealand University, by inducing it to follow the example of Cambridge in 1875 and copied by, I believe, all the medical corporations in Great Britain since that time, and to grant, as they do, diplomas and degrees after a full course of instruction and examination in sanitary science. We should then have an educational force acting vigorously among us and without a break from the lowest to the highest grades, which would eventually compel the authorities to value each human being at some 38 times the value of swine. The work of educating the masses requires much time and as immediate reform is urgent it is absolutely necessary to call upon the authorities to at once enforce the present Health Acts; then, without any amendment of the laws, the Central Board could have at its disposal an efficient staff of medical and other officers to carry out their requirements which was the function for which it was established. The board, on receipt of the annual reports of the local authorities (if it carried out the trusts committed to it), would through its officers, investigate the causes of exceptional sickness within the district of any local board and would thereupon issue such orders or instructions as might be necessary for the protection of the health of the community. The members of the Central Board, using the powers which they already possess, would soon find out where the present machinery is faulty and could ask for such amendments in the law as might be necessary for the better protection of the public with an absolute certainty that their reasonable demands would be complied with. There are, however, some amendments clearly required without further delay, such as: (*a*) the compulsory amalgamation of small road boards so as to form boards of health whose administration would at the same time be both economical and efficient; (*b*) provision that a competent staff of officers shall be appointed by all local boards subject to the approval of the Central Board—these officers to be strictly independent of the local board and to be responsible solely to the Central Board who should authorise the payment of part or all of the salaries of these officers on being satisfied of the efficient performance of their duties and on these terms alone; and (*c*) in each of the four centres of population there ought to be appointed a medical officer of health whose services should be entirely at the disposal of the sanitary authorities but who might have other suitable duties assigned to him and be by virtue of his office an official investigator in all cases of inquest, a public bacteriologist, pathologist, and analyst, and possibly also one of the certifying practitioners under the Lunacy Acts. This officer might also advise rural medical officers and supervise their work. It might be well to consider in connexion with such a scheme whether the districts of the present hospital and charitable aid boards would be advantageous for the local administration of public health affairs and whether these boards, with or without some slight amendments of their constitution, would be suitable as either intermediate or local boards of health. The present local boards, under such circumstances, could still exercise minor jurisdiction in sanitation within their parochial districts. The Central Board should be so constituted that it would be actually the supreme authority in all matters relating to public health. This board should be required to exercise full and direct control over all local boards and should be granted power to compel such boards to carry out all works necessary for the preservation of health, inclusive of those of such magnitude as sewerage and water-supply. The local boards, enlarged in area and powers, should be able on their part to direct and control the parochial boards subject to appeal to the Central Board. Our Government, as I am fully persuaded, is earnestly desirous of furthering the welfare of the community in every particular. It cannot carry out this object of its existence in any better manner than by completing the organisation I have faintly sketched out by forming a Ministerial department of public health. We have departments of justice, defence, and education, all doing important and valuable work, but none is of such vital importance to the welfare of the community as would be a department of public health. This proposition is so evident as to require no argument in its favour, as all appreciate the commercial and physical advantages of security of health. In 1869 a Royal Commission was appointed in England which reported in 1871 that 'the administration of sanitary laws should be made uniform, universal, and imperative throughout the kingdom; that all powers requisite for the health of towns and country should in every place be possessed by one responsible local authority kept in action and assisted by a superior authority.' All sanitary legislation in Great Britain since that time has been initiated in furtherance of the propositions there set forth. The recent British Local Government Acts are calculated to carry out this principle to a greater extent than any preceding enactment. We in this colony cannot go far wrong if we implicitly follow this same policy and even carry it further than Great Britain by the establishment, as I have already proposed, of a department of sanitation. Notwithstanding the 70 Acts and amendments passed relating to sanitation there has been no practical advance made in our sanitary legislation since 1876. The Municipal Corporations and Local Authorities Bills now under the consideration of the Ministry do, however, indicate an attempt at progress as they provide for—(1) county councils acting as rural boards of health in lieu of road boards; (2) simplification and amplification in the process of making by-laws; (3) the authority for the Governor to frame and gazette model by-laws; (4) the better attention to the prevention of overcrowding and over-building; (5) and, finally, a more readily available means of compelling the carrying out of sanitary measures notwithstanding the neglect of a local board. This provision is taken from the Local Government Act, 1890, Victoria, and reads: '1. If any council constituted under this Act in the opinion of the Governor wilfully refuse to act in conformance or exercise of the duties or powers respectively reposed and vested in it by this Act, or in the like opinion substantially so refuse to act, the Governor may make such provision as he thinks fit for the due performance of such duties and powers either by himself or any other person. 2. In particular the Governor shall have and may exercise all the powers of such council to make, levy, and recover rates and to expend the same.' These are valuable amendments. Nevertheless, the provisions of these Bills would not affect materially the unsatisfactory position of sanitary administration as there is no provision for compelling the Central Board to do its duty. All the duties and obligations of the local boards which are optional in our present Acts remain so in these Bills and therefore would not come within the penal provisions. I think our branch would be doing an admirable work were it to devote time during the present year to revising the sanitary sections of the Municipal Corporations and Local Authorities Bills. In the main we must admit that the responsibility for the present unsatisfactory state of the administration of sanitation in this colony must rest with the members of our profession who having the requisite knowledge and the special opportunities for observation and comparison have failed to direct attention to reforms with that force which is so necessary to move public opinion. It might well have been objected to any proposal for reform that if we were satisfied the public might rest content. We have not done our duty in the past, but in the face of the examples set us by other communities we should delay no longer or speak with uncertain sound, but insist that in the interests of the community reform must come and come speedily. We must rise to our responsibilities and no longer be content with spasmodic and individual action, but set ourselves unitedly and strenuously to bring about such changes as our experience has clearly shown to be necessary, and in so doing we shall be carrying out one of the primary objects of our association."

Jan. 16th.

Obituary.

FREDERICK ASHTON HEATH, M.R.C.S. ENG., L.S.A.

MR. F. A. HEATH, one of the consulting surgeons of the Manchester Royal Infirmary, died on March 2nd, after a long and painful illness, at the age of 69 years. He was born in Manchester, where his father was a well-known practitioner, and he lived and died in the city of his birth. He received his medical education at the Manchester Royal School of Medicine, now an important department of Owens College, and this course was supplemented by study at Guy's Hospital and in Paris. Mr. Heath was for many years one of the surgeons of the infirmary and at the "fixed period" of 60 years became one of the consulting staff. He was a careful and judicious surgeon and a successful operator His kindness of heart endeared him to his patients, whether in the Infirmary wards or in their own homes, and though his retiring disposition and great modesty prevented him from taking so prominent and public a position as he might have done, these qualities, together with his cheery and kindly manner, gained him many friends, by whom his death will be greatly regretted He was buried at Prestwich Church prior to which a service was held at the Manchester Cathedral, where he had been an attendant from boyhood In addition to the members of his family there were present representatives of the Infirmary Board with many of his old colleagues on the infirmary staff and a large number of medical and lay friends

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND — The following gentlemen having passed the necessary examinations and conformed to the by laws and regulations have been admitted Members of the College and have received their Diplomas —

Donald Ackland Charing-cross Hospital Harold Cotterell Adams Middlesex Hospital Colville Smith Agnew Charing-cross and St. Mary's Hospitals James Ainscow and Henry George Bidley Anderson Owens College and Royal Infirmary Manchester Roland Harrison Allport, St. Thomas's Hospital Maurice Clare Bielefeld Anderson, St Mary's Hospital; Llewelyn Arnold Bales, St. Bartholomew's Hospital Noel Dean Bardswell King's College and Edinburgh University Clifford Henry Barnes Cambridge University and St Bartholomew's Hospital John Arthur Percival Barnes St Bartholomew's Hospital; Harold Shuttleworth Barwell St. George's Hospital Henry Albert Beatty University of Toronto and London Hospital; John Henry Bellamy Firth College and General Infirmary Sheffield; Herbert Melbourne Berncastle Guy's Hospital Andrew Bevan University College and St Thomas's Hospital Morgan Dix Blake Owens College Manchester and St. George's Hospital Frank Fotracre Bond Westminster Hospital Ernest Clarkson Boundas St. Thomas's Hospital Alfred Bowles University College and St. Mary's Hospital; John Bradley Mason College Queen's and General Hospitals, Birmingham Francis William Brook Guy's Hospital Herbert James Bryan London Hospital; Frederick T Butler Owens College and Royal Infirmary Manchester Edward John Budd Budd and Charles Stanley Cato, Westminster Hospital Arthur Hunton Carter, Arthur Ernest Clarke Vincent James Crawford and Percy James Curtis Guy's Hospital; Frederick Arthur Coates University College and Royal Infirmary Bristol John Scott Challice London and St. Mary's Hospitals and Royal Infirmary Edinburgh James Alfred Patrick Cullen, London Hospital William Herbert Davis Edmund Clapperton Dean and Montague Dixon University College Hospital Frank Sherwill Dawe St. Mary's Hospital Thomas Denman Dawson St Bartholomew's Hospital; Quirino Bonifacio De Freitas King's College Hospital John Thomas Dunston and Evan Evans, Guy's Hospital Edgar Steele Edwards, University College and Royal Infirmary Bristol Alexander Evans Royal Infirmary and Mungo's College Glasgow and Guy's Hospital Frederick Cecil Forster St Mary's Hospital Joseph Reginald Frost, University College and Royal Infirmary Bristol; James Gaff and Cecil Maurice Goodbody St Thomas's Hospital; Frederick Augustus Hadley King's College Hospital Richard Stirke Flemying Hearn and Harold John Hutchens, St Bartholomew's Hospital William Savile Henderson University College Royal Infirmary Liverpool and London Hospital, Arthur Edwin Horn and George Arnold Hutchinson St Mary's Hospital Bernard Featherstone Howlett St. Thomas's Hospital George Osborne Hughes University of Virginia and University College Hospital; Samuel James Royal College of Surgeons Edinburgh and University College Hospital Arthur Webb Jones University College and St. Thomas's Hospital John Henry Jones Guy's Hospital Lewis Jones and Alfred Reginald Kay St Bartholomew's Hospital John Harold Kemp Cambridge University and St Bartholomew's Hospital Alexander John Knowlton Middlesex Hospital Albert Henry Beaumont Kirkman Thomas Hamlyn Whittington Langdon John Matthews and William Tayler Milton Guy's Hospital James Adrian McComb London Hospital William John McCoy University of Madras and St Bartholomew's Hospital; James Ernest Manlove St Bartholomew's Hospital Robert Collins Martin St George's Hospital; Joseph Arthur Mawson Yorkshire College and General Infirmary Leeds and University College Hospital William Byron Milbanke University of Durham George Valentine Miller and Samuel Leo Craigie Mondy University College Hospital Charles Martin Mitchell University College and Royal Infirmary Bristol Cuthbert Blundell Moss-Blundell St Thomas's Hospital Francis John Nicholls Cambridge University and Guy's Hospital Herbert Francis Parker Cambridge University and St Bartholomew's Hospital Edward James Parry St. George's Hospital Thomas Perrin St Thomas's Hospital Cecil Westland Pilcher Oxford University and St Thomas's Hospital William George Porter Charing-cross Hospital; Robert John Pritchard Guy's Hospital Harold Vaughan Pryce Cambridge University and St. Bartholomew's Hospital Francis Lionel Rae Cambridge University and Guy's Hospital James Herbert Rhodes and Francis Graham Richards St Bartholomew's Hospital; Hubert Richard Rix Mason College Queen's and General Hospitals Birmingham and London Hospital George Maurice Oswald Richards and Henry Harold Robinson Owens College and Royal Infirmary Manchester Arthur Ricketts University College Hospital James Herbert Robinson and Nelson Joseph Roche Charing-cross Hospital, Edward Walton Spenser Rowland Cambridge University and Guy's Hospital Frank Atcherley Rose and Evelyn Pierce Sewell, Cambridge University and St Bartholomew's Hospital Cusack Roney Schofield Owens College and Royal Infirmary Manchester, and St. Mary's Hospital Walter Joseph Schuller London Hospital; Charles Walter Scott Edinburgh University and St. Bartholomew's Hospital Hugh William Silver Charing-cross and University College Hospitals Savignac Bell Stedman St. Thomas's Hospital George Arthur Spear, St. Bartholomew's Hospital Reginald John Stilwell Owens College and Royal Infirmary, Manchester, and Westminster Hospital John Henry Tallent and William Elton Tucker Cambridge University and St George's Hospital; David Jones Thomas, London Hospital Francis Barrallier Thompson St George's Hospital Frank Douglas Turner and Harry Stanley Turner Guy's Hospital Arthur Llewellyn Vaughan St Bartholomew's Hospital; Edmond Urquhart Melchior Von Eberts and Frederick Richard Wainwright McGill University and General Hospital Montreal Frederick Edward Walker Guy's Hospital John Frederick Walker and Cornelius Adrian Wessels, London Hospital, Arthur Maitland Ware Cambridge University and St Bartholomew's Hospital Percy Garnons Williams St Thomas's Hospital Alexander Garrick Wilson Cambridge University and St Mary's Hospital Edward Scott Worthington Trinity University Toronto and London Hospital Basil Fenton Wingate St Mary's Hospital, Edward Young London Hospital and John Charles Young Mason College Queen's and General Hospitals, Birmingham

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND —The following gentlemen having passed the necessary examinations have been admitted Diplomates in Public Health —

Samuel Davey L.R.C.P. Lond., M.R.C.S. Eng. London Hospital and King's College London, John Rhodes Dickson M.B. C.M. Edin., Edinburgh University and University College London John Richard Dodd M.B. Durh., F.R.C.S. Eng. Durham University and St Bartholomew's Hospital George Fowler L.R.C.P. & S. Edin., L.F.P.S. Glasg. Madras Edinburgh and Charing-cross Hospital William Francis Grant M.D. C.M. Edin. Edinburgh University and University College London Edmund William Herrington L.R.C.P. Lond. M.R.C.S. Eng. L.S.A. Lond. St Mary's Hospital William Lansdale M.D. Durh. L.R.C.P. Lond. M.R.C.S. Eng. L.S.A. Lond., Durham University and Guy's Hospital Robert George McGowan, M.B. M.S. Aberd. Aberdeen University and University College London Walter Augustus Powell L.R.C.P. Lond. M.R.C.S. Eng., Charing-cross Hospital; James Tracy Simpson L.R.C.P. & S. Edin., L.F.P.S. Glasg. Yorkshire College and General Infirmary Leeds, and University College London George Charles Walker M.B., Ch.B. Vict. L.R.C.P. Lond. M.R.C.S. Eng. L.S.A. Lond. University College and Royal Infirmary Liverpool Ernest Graham Hamilton Williams, L.R.C.P. Lond., M.R.C.S. Eng. Charing-cross Hospital and University College London; and Ernest Morton Wyche L.R.C.P. Lond. M.R.C.S. Eng. London Hospital

FOREIGN UNIVERSITY INTELLIGENCE — *Basle*. Dr Garré of Rostock has declined the invitation to the chair of Surgery in succession to the late Dr Socin —*Berlin* - Dr Paul Jacob assistant in the First Medical Clinic, under Professor von Leyden, and Dr Max Rothmann have been recognised as *privat docenten* of Medicine, Dr Finkelstein of the Charité as *privat docent* of Children's Diseases, and Dr Grabower as *privat docent* of Laryngology —*Bologna* - Dr Orazio Modica has been recognised as *privat docent* of Forensic Medicine.—*Catania* Dr Annibale Costa has been recognised as *privat docent* of Surgical Pathology —*Florence*. Dr O Baduel has been recognised as *privat docent* of Medical Pathology —*Freiburg* Dr Hugo Sellheim has been recognised as *privat docent* of Midwifery and Gynæcology —*Jurieff* (*Dorpat*) Dr Czermak has been promoted to the Ordinary Professorship of Comparative Anatomy Histology, and Embryology —*Munich* Dr von Rothmund, Professor of Ophthalmology, is about to retire —*Naples* Dr Gatta has been recognised as *privat docent* of Medical Pathology, Dr O Colucci as *privat docent* of Psychiatry, Dr C Ghillini as *privat-docent* of Orthopædics, and Dr Pietravalle as *privat-docent* of Midwifery and Gynæcology Dr Pietro Castellino of Padua has been appointed Professor of Medical Pathology —*Pavia* Dr A Monti of Palermo has been appointed Professor of Pathological Anatomy, Dr Carlo Ceni has been recognised as *privat docent* of Neurology, Dr Cosimo Binda as *privat docent* of Forensic Medicine, and Dr Cesari Paderi as *privat docent* of Pharmacology and Materia Medica —*Rio de Janeiro* Dr Marcos Cavalcanti has been appointed to the chair of Clinical Surgery in succession to Dr O Bulhões, deceased Dr Domingos de Góes e Vasconcellos has been appointed to the chair of Operative Medicine, vacant by the promotion of Dr. Cavalcanti —*Rome* Dr Severino Boezio Piergili of Genoa has been recognised as *privat docent* of Otology Dr Roberto Binaghi has been recognised as *privat docent* of Surgical Pathology and Dr Constantino Gorini as *privat docent* of Experimental Hygiene —*Rostock* Dr Kobert formerly Professor in Iurieff (Dorpat) has been appointed to the chair of Pharmacology and Medical Chemistry in succession to Dr O Nasse, resigned —*Strasburg* Dr Adolf

Magnus-Levy, formerly of Berlin, has been recognised as *privat-docent* of Medicine.—*Vienna:* Dr. W. Pauli has been recognised as *privat-docent* of Internal Medicine.—*Würzburg:* Dr. Fick, Professor of Physiology, is about to retire; Dr. Andreas Rosenberger, Extraordinary Professor of Forensic Medicine, has retired.

MEDICAL MAGISTRATE. — Mr. E. F. Eliot, F.R.C.S. Edin., L.R.C.P. Edin., F.F.P.S. Glasg., of Southampton, has been appointed a magistrate for the County Borough of Southampton.

THE MEDICAL OFFICER OF HEALTH OF WILTSHIRE.—Dr. Maxwell Ross, who was recently appointed medical officer of health of Wiltshire, has decided not to accept the appointment. In accordance with the terms of the resolution recently passed by the Wiltshire County Council the post has been offered to Mr. John T. Thomas, the medical officer of health of Leicestershire and Rutland combined districts.

COUNTY LABORATORY FOR GLAMORGANSHIRE.—At a recent meeting of the Sanitary Committee for Glamorganshire it was decided to ask University College, Cardiff, to utilise the laboratory for instruction in public health work, and to ascertain whether the Cardiff Corporation wished to have a share in the laboratory. It was also decided that bacteriological examinations of water should be made gratuitously, but only when the samples were submitted by registered medical practitioners or medical officers of health. Various fees will be charged for other examinations.

UNIVERSITY OF CAMBRIDGE. — The Medical Board propose a change in the regulations for the M.C. degree whereby Masters of Arts who have become legally qualified to practise surgery may apply for admission to take the degree on account of their original contributions to the advance of the art or science of surgery.—At the Congregation on March 2nd the following medical and surgical degrees were conferred:—M.B. and B.C: F. A. Godson, B.A., St. John's; A. W. Daniel, B.A., Emmanuel; R. J. Wilson, B.A., Emmanuel. M.B.: A. G. Butler, B.A., St. John's.

PRESENTATIONS TO MEDICAL MEN. — At the fortieth anniversary dinner on Feb. 21st of the Loyal Albion Lodge, Independent Order of Oddfellows, Manchester Unity (West London district), Mr. Frederick Henry Alderson, M.D. St. And., late surgeon to the lodge, was presented upon his retirement with a testimonial consisting of a gold jewel emblematical of the Order and an address artistically wrought, being surmounted by the symbols of the Order, and an excellent photograph of himself in the centre, as tokens of grateful recognition of his 30 years' faithful service to the lodge.—The members of the St. John Ambulance class at Newlyn, Cornwall, have presented Mr. A. R. Field Evershed, L.R.C.P. Lond., M.R.C.S. Eng., of Penzance, with a copper pipe-rack suitably inscribed as a mark of their appreciation of his services as honorary instructor.—The members of the St. Agnes (Cornwall) branch of the St. John Ambulance Association gave a complimentary dinner recently to Mr. William Whitworth, M.R.C.S. Eng, L.S.A., in appreciation of his services as honorary instructor of the class.

Parliamentary Intelligence.

HOUSE OF COMMONS.

TUESDAY, FEB. 28TH.

Convalescent Homes for Soldiers.

MR. WYNDHAM, replying to a question addressed to him by Captain NORTON, said that in the opinion of the Army Medical Department there was not the same necessity for establishing convalescent stations for soldiers in Ireland as existed in England because the barracks were mostly situated among small populations and healthy surroundings. It was thought that the barracks at the Curragh, Holywood, and Queenstown would afford the necessary change for sick soldiers quartered at Dublin, Belfast, and Cork respectively.

Hours of Labour in Bakehouses.

Mr. WOODS introduced at this sitting a Bill to restrict the hours of labour in bakehouses to 48 per week.

THURSDAY, MARCH 2ND.

The Medical Service of the Volunteers.

Dr. FARQUHARSON asked the Under Secretary of State for War whether his attention had been called to the unsatisfactory condition of the medical service of the volunteers, more particularly to t anomalous position of the brigade bearer companies; and whether was proposed to so organise the volunteer medical service as to assimil it to the regular medical service of the army both as regards rank the medical officers and the organisation of the Volunteer Medical Sta Corps and the brigade bearer companies and thereby render it effecti as one of the departments of the volunteer force.—Mr. POWE WILLIAMS, replying for Mr. WYNDHAM, said: An increased establis ment has been given to all companies of the Volunteer Medical St Corps in order to complete the *personnel* for transport sections. A allowance will be given to enable them to practise transport duti There is no intention to make an alteration in the rank of volunte medical officers. The question of the reorganisation of the volunte infantry brigade bearer companies is under consideration.

The Vaccination Question.

Mr. STRACHEY asked the President of the Local Government Boa whether in view of the objections felt by many medical men at havi their patients visited by the public vaccinator he would take in consideration the desirability of paying for vaccination by the fami medical attendant.—Mr. CHAPLIN: I have no information to the effe that objections are felt by many medical men at having the patients visited by the public vaccinator. The duty of the publ vaccinator to visit the home of an unvaccinated child does not ari until the child has attained the age of between four and fi months unless the parent requests him to visit the home at earlier date. There is therefore ample opportunity for the priva practitioner to perform the operation if it is desired. The sugge tion of the hon. Member was fully discussed during the pa sage of the Bill last year but was rejected by a majority of mo than two to one, and I see no reason for altering that decision now.

Mr. CHANNING asked the President of the Local Government Board (with reference to a letter of the Local Government Board addressed la December to one of the vaccination officers of the Reading Board Guardians in which it was stated that it would be contrary to th Board's practice to advise an officer of a board of guardians withou reference to the guardians in a matter in which the guardians hav jurisdiction, whether the matter submitted to the Local Governmen Board and touched upon in their reply was action by the vaccina tion officer in prosecuting defaulters under the Vaccination Acts; (whether vaccination officers were to understand from this letter that i interpreting the instructions to vaccination officers in the fourt schedule to the general Vaccination Order of Oct. 18th, 1898, in su section (*d*) of section 6 of those instructions and elsewhere that it wa their duty in the first place to take the orders of the guardians as t prosecuting or not prosecuting defaulters, or to abstain from prosecut ing any defaulter if so ordered by the guardians; (3) whether, for severa years before the Vaccination Act, 1898, the Local Government Boar had left the boards of guardians free to decide whether prosecution were to be undertaken or not and had repeatedly addressed to th boards copies of the Evesham letter urging the boards not to repea prosecutions; and (4) whether he would forthwith send a circular to al vaccination officers that they were to act according to the instruction given in the Reading letter referred to in this question; and with the admitted practice which the Local Government Board had now allowe for several years past.—Mr. CHAPLIN: The hon. Member is under a misapprehension as to the correspondence to which he alludes. No such letter as that referred to in the question was written by th Local Government Board in December last. But in January 1898, one of the vaccination officers of the Reading Union wrot to the Board asking for their advice in the matter of vaccinatio without specifying any particular point and the reply to the letter wa to the effect stated in the question. As regards the second and fourth paragraphs it will be obvious that that letter had no bearing on th instructions to vaccination officers in the Vaccination Order o October, 1898, as it was written nearly nine months prior to the issue o the Order. As regards the third paragraph, under the regulations whic were in force until the present year it was the duty of the guardian to cause proceedings to be taken against persons in defaul under the Vaccination Acts and for this purpose to give directions t the vaccination officer to institute and conduct the proceedings. I was the practice of the Board to point out to the guardians that it wa their duty to give directions to the vaccination officer accordingly. I was decided in the case of Bramble *v.* Lowe that notwithstanding th regulations then in force the power of taking proceedings was vested i the vaccination officer under the Vaccination Acts without any dire tions from the guardians which were held to be superfluous and havin regard to that decision and to the opinions given by the law officers the Crown the Board have not in their new Order imposed any dut either on the guardians or vaccination officer as regards the institutio and conduct of proceedings.

Examinations for Sanitary Inspectors.

Mr. CHAPLIN, replying to a question by Mr. HOBHOUSE, said that a association had been formed with the concurrence of the Local Gover ment Board for holding examinations for persons desirous of obtainin certificates of competency for the office of sanitary inspector. inspector of nuisances. One of the objects of the association was t prescribe such course of study and technical training as might calculated to ensure the fitness of persons desirous of qualifying fo these offices. Several bodies, some of whom provide instruction fo those who desire to become sanitary inspectors, would be represente on the examination board and representatives might be elected by suc additional bodies as might from time to time be approved by th Local Government Board.

Tuberculosis.

Mr. CHANNING asked the First Lord of the Treasury whether, havin regard to the repeated expressions of opinion by the Central an Associated Chambers of Agriculture, British Dairy Farmers' Associ tion, and many other representative bodies to the effect that th questions relating to tuberculosis should be dealt with by the State i legislation for the whole country, Her Majesty's Government woul introduce a Bill or Bills to meet this desire and secure unifor administration throughout the United Kingdom.—Mr. BALFOUR: Th Government are not at present prepared to propose legislation on th subject.

Vivisection.

Mr. MACNEILL asked the Home Secretary whether he was aware tha at an anti-vivisection meeting held at Bradford on Sept. 30th las

Dr Kerr, speaking against the proposed withdrawal of licences granted to vivisectors, said the effect of the proposal would be to increase the number of illegal experiments on the bodies of living animals and that such experiments were performed by many of his fellow practitioners at Bradford as it was necessary in the cause of science that such experiments should be made, whether he was aware that Dr Kerr stated that Dr Hines of Horton-road, Bradford, was the only vivisector in Bradford who carried out experiments in vivisection under the licence required by law, and that Dr Hines, who was present, stated that he had performed hundreds of vivisections and should continue to do so; whether he was aware that the secretary of the Anti-Vivisection Society produced a list of licensed vivisectors on which the name of Dr Hines did not appear; and whether, in view of these facts, he intended to take any and what steps for the enforcement of the law against the practice of unlicensed vivisection.—Mr JESSE COLLINGS replied: The Secretary of State believes that at a somewhat excited meeting at Bradford on the date mentioned statements to the effect suggested were made. His attention was drawn to the matter at the time; he caused inquiry to be made but he could not elicit any clear statement of what was actually alleged or any evidence of illegal vivisection being performed by Dr Hime, not Hines. There are, therefore, no steps which he can take in the matter. I may add that it should be remembered that performing upon an animal an experiment calculated to give pain without a licence is an ordinary offence which any person may prosecute.—Mr MACNEILL asked the Home Secretary whether his attention had been called to the interpretation put by the Government inspector of vivisection operations on the effect of the Act when he stated in his preface to the last returns that the certificates dispensing with the use of anæsthetics made it obligatory on the holder not to use them even should he desire to do so and when he himself believed that the experiment could be carried on under anæsthetics, and whether he would take this interpretation of the Act by the Government inspector under his consideration.—Mr JESSE COLLINGS said: The Secretary of State thinks that the hon. Member has entirely misconceived the meaning of the statement to which he refers. Perhaps I may explain the apparent difficulty. The Act lays down that experiments such as those in question can only be performed without anæsthetics by a person holding a certain certificate. If the experiment is to be performed under or partly under, anæsthetics the certificate required is quite different. The operator referred to possessed the former but not the latter certificate. Therefore, by using anæsthetics in his anxiety to avoid causing even the slightest pain to the animal he committed a slight technical irregularity which the inspector in accordance with the usual practice noticed in his annual report.

Physical Drill in the Army.

Mr GEORGE WYNDHAM, Under Secretary for War, in making the annual statement with regard to the condition of the army, said on the subject of recruiting: I am sorry to say that of the recruits who presented themselves 35 per cent. were rejected on medical grounds. I think that that is rather an alarming figure. It may give us just cause for apprehension, not only in respect of the welfare of the army, but of the people themselves. A good many of these rejections were due to bad teeth and it is quite astonishing to learn the number who were rejected because they lacked general development. It occurs to me that in schools largely supported out of public funds it may not be impossible to get the children to take some elementary precautions to preserve their teeth while it would also be a good thing to introduce into the schools that system of physical drill which Colonel Fox thinks has done so much for the recruits of the British Army. What it has done for the recruits may be gathered from the large percentage of recruits who were under standard but who attained the standard within a short time and this fact was simply due to these exercises. Of the recruits re-measured in January who had joined since October 43 per cent. had reached the standard; of the 'specials' who joined before June 30th 73 per cent. had reached the standard; and of 'specials' who joined before 1898 90 per cent. had reached the standard, and some of those 'specials' are now, on account of their abnormal muscular development, teaching gymnastics in our gymnasia.

FRIDAY, MARCH 3RD.

Notification of Infectious Disease.

On the motion of Sir FRANCIS POWELL a Bill was introduced to extend the Infectious Disease Notification Act, 1889, to districts in which it has not been adopted.

MONDAY, MARCH 6TH.

The Supply of Medicine to Irish Workhouses.

Mr M'CARTAN asked the Chief Secretary to the Lord Lieutenant of Ireland (1) whether his attention had been called to a paragraph published in the Dublin *Freeman's Journal* of March 2nd, under the heading "Local Government Board Medicine Tender Forms"; (2) whether he was aware that the paragraph contained a copy of a resolution adopted unanimously by a board of guardians protesting most emphatically against the use of these forms as prejudicial to the purchase of certain medicines in Ireland; (3) whether these forms quoted from the price-lists of English firms and in certain cases contained the fancy trade-mark of English firms; and (4) whether in the encouragement of Irish industries these forms would be discontinued and boards of guardians and district councils allowed to purchase with Irish money these drugs, medicines, and instruments from Irish firms in Ireland.—Mr GERALD BALFOUR replied that the answer to the first and second paragraphs of the question was in the affirmative. In the Local Government Board's prescribed list of medicines 11 out of the total of 416 articles given therein were quoted from the price-list of an English firm—Messrs. Burroughs and Wellcome—the strength of the preparation being stated in each case. These few articles had been added to the 405 preparations of the British Pharmacopœia included in the list as being articles of well-established reputation. There was no foundation for the complaint contained in the resolution that the inclusion of the few preparations referred to in the Board's authorised list would be prejudicial to Irish manufacturers and the Local Government Board had reason to believe that any list which excluded the 11 preparations of Messrs. Burroughs and Wellcome would be considered incomplete by the medical profession. These articles had received the approval of the Royal College of Physicians of Ireland. No objection had been received from the Irish drug trade respecting the Local Government Board's prescribed list of medicines.

Sale of Food and Drugs Bill.

At this sitting there was a debate on the motion for the second reading of the Sale of Food and Drugs Bill promoted by the Government. Mr. WALTER LONG, President of the Board of Agriculture, in making the motion explained in detail the provisions of the Bill and the objects of the Government in promoting it. He laid down two propositions. One was that they ought not to interfere by legislation with a legitimate industry which produced a wholesome and valuable article of food in great demand by the poorer classes of the country especially, and which they were entitled to have and to buy freely and openly, so long as it was sold in a straightforward manner; and the other was that the law of the land as now found on the statute book must be obeyed and carried out and that if it was possible to secure it trade must be conducted on honest and honourable principles. Taking these two propositions as conditions antecedent to legislation he thought it would not be difficult for Parliament so to alter the law by tightening it up in one or two directions and by conferring some fresh powers on the Board of Agriculture as to meet all the requirements of the case. It was proposed by the Bill that samples should be taken at the port of debarkation of certain articles of dairy produce such as butter, cheese, and milk and power was sought to proceed against the people who were responsible for the introduction of adulterated articles. With regard to the home trade, the Bill proposed that the duty of carrying out the Acts should rest with the local authority as at present but that the Board of Agriculture should have power to guide the local authority and urge it to carry out its powers. If the local authority were found to be in default, then it would be for the Board of Agriculture to do the work and charge the cost of the proceedings to the local authority. It was proposed that the limit of butter fat in margarine should be 10 per cent. which would not interfere with the manufacture of the best descriptions of margarine, but it was not proposed to stop the colouring of margarine which was coloured in the same way as butter, cheese, and milk to make it look attractive.—Mr LOGAN, seconded by Sir CHARLES CAMERON, moved the rejection of the Bill and after several other members had spoken the debate was adjourned.

TUESDAY, MARCH 7TH.

The London Water Question.

Mr HARRY SAMUEL asked the President of the Local Government Board whether in the event that the Metropolis Water Bill did not pass into law in time to prevent a recurrence next summer of the water famine in East London, he would take temporary measures to prevent a scarcity of water in that district of the metropolis.—Mr CHAPLIN replied: I do not quite understand what are the temporary measures to which the hon. Member refers or why he should assume that the passage of the Bill may be delayed. Nothing that I am aware of except the completion of certain connexions between the works of different companies can ensure the inhabitants of East London against recurrence of scarcity in the event of a similar drought to that of last summer and every effort will be made to promote the passing of the Bill.

WEDNESDAY, MARCH 8TH.

The Conscientious Objector.

An attempt was made by Mr Boulnois at this sitting to get a second reading for his Bill to repeal the Conscientious Objector Section of the Vaccination Act of last year. The attempt, however, failed and the order was postponed until Wednesday, March 22nd.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ANDREWS, RICHARD JAMES, M.R.C.S., L.S.A., has been appointed Medical Officer of Health by the Urban District Council of Heavitree.

BARNES, GEORGE, M.R.C.S., L.R.C.P. Edin., L.S.A., has been re-appointed Medical Officer of Health for Chard.

BELDING, D. T., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the East Dereham Urban District Council.

BROWN, R., M.B., B.S. Durh., has been re-appointed Medical Officer of Health by the Blaydon Urban District Council.

BRYNE, P. A., M.D., B.S. Lond., F.R.C.P., M.R.C.S., has been appointed Medical Officer for the Christchurch Sanitary District, Parish of St. Marylebone, London.

CHISSON, H., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Superintendent to the Hospital for the Insane, Goodna, Queensland.

COCKS, O. C., M.D. St. And., M.R.C.S., has been appointed Government Medical Officer and Vaccinator for the District of Wentworth, New South Wales, vice H. Breton, resigned.

COOPER, A., F.R.C.S. Eng., has been appointed an Honorary Consulting Physician to St. Mary's Hospital, City-road, London.

CORBETT, CHARLES, L.R.C.P. Lond., M.R.C.S., has been appointed Public Vaccinator for the Caldicott District by the Chepstow Board of Guardians.

COUNSELLOR, W. P., M.D. Durh., L.R.C.P. Irel., M.R.C.S., has been re-appointed Medical Officer of Health by the Clitheroe Rural District Council.

DUNCAN, WM., M.B., C.M. Glasg., has been re-appointed Medical Officer of Health by the Clay Cross Urban District Council.

FLOWER, FRED. J., M.R.C.S., has been re-appointed Medical Officer of Health by the Warminster Urban District Council.

Forster, Fred. C., M.R.C.S., L.R.C.P., has been appointed Assistant House Surgeon to the Royal Berkshire Hospital, Reading.

Freyer, J. K., *L.K.Q.C.P. Irel., L.R.C.S.*, has been appointed Government Medical Officer and Vaccinator for the District of Tenterfield, New South Wales, vice R. T. Morice, resigned.

Halford, A. C. F., M.B., Ch.B. Melb., has been appointed Resident Surgeon, Peak Downs Hospital, Clermont, Queensland.

Hart, J. W., M.B., Ch.M. Edin., has been appointed Government Medical Officer and Vaccinator for the District of Binpara, New South Wales, vice G. C. Cary, resigned.

Hoffman, A. H., M.D. St. And., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health by the Knighton Rural District Council, vice R. F. Cox, resigned.

Jones, F. F., M.R.C.S., has been appointed Medical Officer of the No. 2 Sanitary District of the Bath Union, vice H. C. Hopkins, resigned.

Jones, R. R., L R.C.P. Edin., M.R.C.S., has been appointed Medical Officer to the Bangor Post Office.

Kay, J. Graham, M.B., C.M. Edin., has been appointed Public Vaccinator for the Shirenewton District by the Chepstow Board of Guardians.

Kenny, A. S., M.R.C.S., has been appointed Medical Superintendent of the Government Sanatorium at Rotorna, New Zealand.

Kerr, J. L., M.D. Aberd., C.M., has been appointed Medical Officer for the Biddenden Sanitary District of the Tenterden Union.

Lawrence, A. G., M.D. St. And., M.R.C.S., L.S.A., J.P., has been appointed Public Vaccinator for Chepstow by the Chepstow Board of Guardians.

Mackenzie, E., M.D. Glasg., C.M., has been appointed Medical Officer for the Workhouse and the Cheadle Sanitary District of the Cheadle Union.

Mackinnon, Charles, M.A., M.B., C.M. Glasg., has been re-appointed Medical Officer of the South District of the Cirencester Union.

Miller, Victor, M.B., C.M. Edin., has been appointed Honorary Ophthalmic Surgeon to the North Ormsby Hospital, Middlesbrough-on-Tees.

Parr-Dudley, Arthur Dudley, L.R.C.P. Lond., M.R.C.S., L.S.A., been appointed Medical Officer and Public Vaccinator for the Fifth District of the Chipping Sodbury Union.

Pattinson, H. A., L.R.C.P. Irel., M.R.C.S., has been re-appointed Medical Officer of Health by the Seaton Urban District Council.

Spence, H., M.B., Ch.B. Melb., has been appointed a Public Vaccinator at Strathmerton, Victoria, Australia, vice B. B. Hoggan, resigned.

Thurnam, Herbert Leslie, M.A. Cantab., M.R.C.S., L.R.C.P., L.S.A., has been appointed Public Vaccinator for the whole District of Gravesend and Milton.

Treves, Frederick, F.R.C S., has been appointed an Emeritus Professor of Surgery to the London Hospital.

Turton, W. H., M.B., C.M. Edin., has been re-appointed Medical Officer of Health by Heanor District Council.

Walden, F. J., M.B., C.M. Edin., has been appointed Officer of Health for Sorell, Tasmania.

Williams, F. E., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Sixth Sanitary District of the St. Neot's Union.

Woodroofe, R. P., L.R.C.S. Irel., has been appointed Medical Officer by the Eccleshill Urban District Council.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

Blackburn and East Lancashire Infirmary, Blackburn.—Junior House Surgeon. Salary to commence at £50 per annum, with board, lodging, washing, &c.

Borough Hospital, Birkenhead.—Junior House Surgeon. Salary £60 per annum, with board and lodging, but no wine, spirits, or beer.

Charing-Cross Hospital, London.—Assistant Physician.

Chelsea Hospital for Women, Fulham-road, S.W.—Registrar for three years, subject to annual re-appointment. Honorarium 20 guineas per annum.

Chester General Infirmary.—Visiting Surgeon for two years. Salary £80 per annum, with residence and maintenance in the house.

Chorlton-upon-Medlock Dispensary, Manchester.—Resident House Surgeon, unmarried. Salary £100 a year, with furnished rooms and attendance.

County Asylum, Whittingham, Lancashire.—Junior Assistant Medical Officer, unmarried. Salary commencing at £100 per annum, increasing to £250 according to promotion, with furnished apartments, board, attendance, and washing.

Cumberland Infirmary, Carlisle.—Assistant House Surgeon for one year. Salary £40 per annum, with board, lodging, and washing.

Cumberland and Westmorland Asylum, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £100 a year, with board and residence.

Dinorwic Quarry Hospital.—Assistant to act as Assistant Surgeon. Salary £150 a year, with half midwifery fees attended by him. Applications to Mr. Roberts, Dinorwic Quarry Hospital, Llanberis, North Wales.

Essex County Asylum, Brentwood.—Junior Medical Assistant Officer, unmarried. Salary £120 per annum, with board, residence, and washing.

Hospital for Consumption and Diseases of the Chest, Brompton.—Assistant Physician. Also Resident House Physicians.

Liverpool Dispensaries, 34, Moorfields, Liverpool.—Assistant Surgeon, unmarried. Salary £80 for the first year and £90 per annum afterwards, with board and residence.

Liverpool Northern Hospital.—Resident House Surgeon's Assistant for six months. Board and lodging provided.

London Hospital, Whitechapel, E.—Surgical Registrar. Salary £100 per annum.

Miller Hospital and Royal Kent Dispensary, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary £40 per annum, with board, attendance, and washing.

Monmouthshire Asylum, Abergavenny.—Third Assistant Medical Officer. Salary £100, increasing by two yearly instalments to £150, with board, lodging, and washing.

North Ormesby Hospital, Middlesbrough.—House Surgeon, non-resident, single. Salary £200.

Royal College of Physicians of London and Royal College of Surgeons of England Conjoint Laboratories.—Director of the Conjoint Laboratories.

Royal Infirmary, Sheffield.—Junior Assistant House Surgeon. Salary £50 per annum, with board, lodging, and washing.

Royal Hospital for Sick Children, Glasgow.—House Physician Salary £50, with board and washing.

Royal South Hants Infirmary, Southampton.—Assistant House Surgeon for six months. Gratuity £10, conditionally.

Royal Westminster Ophthalmic Hospital, King William-street, West Strand, W.C.—Assistant Surgeon.

Seamen's Hospital Society ("Dreadnought"), Greenwich, S.E.—House Surgeon for Branch Hospital, Royal Victoria and Albert Docks, E. Salary £50 per annum, with board and residence.

Staffordshire County Asylum, Stafford.—Junior Assistant Medical Officer, unmarried. Salary £100 a year, with furnished apartments, board, &c., and rising £25 per annum up to £150.

Staffordshire General Infirmary, Stafford.—Assistant House Surgeon. Salary £30 per annum, with board, lodging, and washing.

Stockport Infirmary.—Assistant House and Visiting Surgeon. Salary £70 per annum, with board, washing, and residence.

St. John's Wood and Portland Town Provident Dispensary, N.W.—Third Medical Officer. Applications to the Secretary, 1, Henstridge Villas, St. John's Wood.

St. Mary's Hospital, Paddington, W.—Surgeon for Diseases of the Ear for five years.

Swansea General and Eye Hospital.—House Physician for one year. Salary £50 per annum, with board, apartments, washing, and attendance.

Tottenham Hospital.—Resident Medical Officer for one year. Salary £60 per annum, with board, lodging, and washing.

University of Edinburgh.—Professor of Physiology.

West London Hospital, Hammersmith-road, W.—House Physician and House Surgeon for six months.

West Riding Asylum, Menston, near Leeds.—Fourth Assistant Medical Officer. Salary to commence at £100, rising £10 annually to £150, with board and apartments.

Births, Marriages, and Deaths.

BIRTHS.

Anderson.—On March 1st, at East-street, Faversham, the wife of Charles Macdonell Anderson, M.D., M.R.C.S., of a daughter.

Patch.—On March 5th, at the Fernery, Chudleigh, South Devon, the wife of H. H. Lloyd Patch, M.R.C.S., L.R.C.P. Lond., L.S.A. Lond., of a son.

Shaw-Mackenzie.—On March 4th, at 31, Grosvenor-street, W., the wife of John A. Shaw-Mackenzie, M.D. Lond., of a son and daughter.

MARRIAGES.

Papillon—Paton.—On Feb. 14th, at St. Margaret's Church, Westminster, by the Rev. W. L. Paige Cox, Vicar of Rockferry and Rural Dean of Birkenhead, assisted by the Rev. Lennox Tindall, Vicar of Ore, Hastings, brother-in-law of the bridegroom, Godfrey Keppel Papillon, of the Manor House, Kingscliffe, Northamptonshire, son of Philip O. Papillon, J.P. and L.D., of Crowhurst Park, Sussex, and Lexden Manor, Essex, to Jessie Winifred, only daughter of J. Wilson Paton, M.D., Rockferry, Cheshire.

Pedley—Wolsey.—On March 1st, at Denmark-place Baptist Chapel, Samuel Edward Pedley, L.R.C.P. Lond., M.R.C.S., L.D.S., of Camberwell, to Ada Elizabeth, daughter of James Wolsey, of Shelford Lodge, Camberwell.

DEATHS.

Burns.—On March 5th, at his father's residence, Berar, Vale-road, Ramsgate, Alfred Hugh Burns, L.R.C.P.I., L.S.A., aged 44 years.

Gartley.—On March 4th, suddenly, at Sackville-street, Piccadilly, W., John Alexander Gartley, L.D.S.R.C.S. Eng., aged 63 years.

Rodgers.—On Feb. 21st, at Ross, suddenly, Marshall Prime Rodgers, L.R.C.P., L.R.C.S., youngest son of the late J. M. P. Rodgers of Queniborough Lodge, Leicester. Deeply regretted. Interred at Ross, Feb. 25th.

Rose.—On March 7th, at Dale Bank, Chesterfield, suddenly, John Rose, M.D. (Retired List R.N.), aged 76.

Smith.—On March 1st, at Stuart Lodge, Polwarth-terrace, Edinburgh, John Stuart Smith, M.D., retired Surgeon-Major, Army Medical Department, aged 84 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, Mar. 9th, 1899.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 a.m.
Mar. 3	30·20	W	..	73	51	36	36	37	Overcast
" 4	29·84	W	...	78	50	36	37	38	Overcast
" 5	30·15	N E	...	80	45	33	35	37	Hazy
" 6	30·10	S		73	45	32	33	35	Hazy
" 7	29·67	S S W	.	77	51	32	33	34	Foggy
" 8	29·50	W		73	53	34	39	40	Cloudy
" 9	29·06	S W	0·08	73	43	40	41	42	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (9.30 A.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.), London Throat (2 P.M.).

TUESDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (15th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (16th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.).

FRIDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (18th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (13th).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. J. Langton: Radical Operation for Inguinal Hernia—and afterwards.

TUESDAY (14th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Papers:—Dr. T. R. Bradshaw and Dr. W. B. Warrington: The Morbid Anatomy and Pathology of Dr. Bradshaw's Case of Myelopathic Albumosuria.—Mr. G. H. Makins: On Prevesical Hernia with the Relation of a Case in which Subacute Strangulation occurred.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (17, Bloomsbury-square, W.C.).—8 P.M. Prof. J. R. Green: Adverse Conditions and their Remedies in the Life of Plants.

WEDNESDAY (15th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Mr. L. Wright: The Projection Microscope.

NORTH-WEST LONDON CLINICAL SOCIETY (North-West London Hospital).—8.30 P.M. Annual General Meeting. Election of Officers. Demonstration of Cases.

ROYAL METEOROLOGICAL SOCIETY (Institution of Civil Engineers, Gt. George-street, Westminster, S.W.).—7.30 P.M. Ordinary Meeting. Papers:—Mr. J. Brodie: The Prolonged Deficiency of Rain in 1897 and 1898.—Rev. H. W. Yorke: The Climate of Jersey.

THURSDAY (16th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road).—8.30 P.M. Dr. Mouillot: Modern Views on Gout in Relation to Treatment.

ROYAL SOCIETY.—Prof. Burdon Sanderson: The Electrical Concomitants of Motion in Plants and Animals (Croonian Lecture).

FRIDAY (17th).—EPIDEMIOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Paper:—Dr. W. H. Crosse: Blackwater or Hæmoglobinuric Fever.

SOCIETY OF ANÆSTHETISTS (20, Hanover-square, W.).—Papers by Mr. H. B. Gardner and Mr. A. Granville. Casual Communications.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (13th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. Stewart: Alternation of Generation and Recent Additions to the Museum.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. G. L. Cheatle: The Treatment of Wounds and their Complications.

TUESDAY (14th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. G. R. Murray: The Pathology of the Thyroid Gland (Goulstonian Lecture).

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—4 P.M. Mr. H. W. Dodd: Cases of Visual Disorder in relation to Diseases of the Nervous System.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Dr. Taylor: Syphilitic Diseases of the Nervous System.

ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Prof. E. Ray Lankester: The Morphology of the Mollusca.

WEDNESDAY (15th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. Stewart: Alternation of Generation and Recent Additions to the Museum.

EVELINA HOSPITAL (Southwark bridge-road, S.E.).—4.30 P.M. Mr. S. Stephenson: Clinical Demonstration on Ophthalmic Cases from the Wards (Post Graduate Course).

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Bliss: Chronic Pneumonia.

THURSDAY (16th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. S. Gee: The Causes and Forms of Bronchitis (Lumleian Lecture).

CHARING-CROSS HOSPITAL.—4 P.M. Dr. W. Hunter: Pathological Demonstration (Post-Graduate Class).

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Still: Demonstration of Selected Cases.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—4.30 P.M. Dr. M. Dockrell: Cases of Purpura and other Hæmorrhagic Affections.

LONDON TEMPERANCE HOSPITAL.—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration to Senior Students.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. G. L. Cheatle: The Treatment of Wounds and their Complications.

FRIDAY (17th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. Stewart: Alternation of Generation and Recent Additions to the Museum.

ROYAL INSTITUTION OF GREAT BRITAIN.—9 P.M. Prof. F. Gotch: The Electric Fish of the Nile.

SATURDAY (18th).—ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Right Hon. Lord Rayleigh: The Mechanical Properties of Bodies.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1898, which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in THE LANCET of Jan. 7th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1898 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 6*d.*

To be obtained on application to the Manager, [illegible]ied by remittance.

"THE JUST POSITION OF BACTERIOLOGY."

UNDER this heading a letter has appeared in some London and many provincial papers, which letter is signed Maurice L. Johnson and contains a complete misrepresentation of THE LANCET. As a rule we do not pay any attention to these misrepresentations, but when we have reason to believe that no error is being made but that our words have been twisted with the wilful intent to prejudice the medical profession in the eyes of the public we do not always remain silent. Mr. Maurice L. Johnson, in his communication to the lay press, quotes from an article written by the late Dr. C. Egerton Fitz-Gerald of Folkestone which was published in our issue of Feb. 4th and which contains some passages reflecting upon the undue importance—in the writer's opinion—that is now attached to bacteriology. In the course of this article Dr. Fitz-Gerald had occasion to quote from Professor Virchow's address delivered under circumstances that will be fresh in the minds of many of our readers at the opening of the last winter session of the Charing-cross Medical School. Professor Virchow in this address said that every contagious disease must not yet be attributed to a micro-organism, and Dr. Fitz-Gerald, the purport of whose little article was to enlarge upon this text, alludes to Professor Virchow in the following terms: "It will be admitted that men of his eminence, age, and scientific attainments are far better able to calmly review and dispassionately judge of the value of new discoveries and researches than the pure scientist who, with some self-complacency, may choose to dub such views 'old-fashioned.'"

Mr. Maurice L. Johnson's letter quotes certain passages in Dr. Fitz-Gerald's article in which the position of bacteriology is slightingly referred to and asks the public to take a similar view upon the authority of THE LANCET. This is accomplished by attributing to the Editors of THE LANCET Dr. Fitz-Gerald's eulogy of Professor Virchow and making the subject of that eulogy Dr. Fitz-Gerald himself. We have the highest respect for the memory of our frequent correspondent the late Dr. C. Egerton Fitz-Gerald and have put that respect on record in our obituary notice, but we made no editorial comment whatever either upon his article or upon his scientific attainments. We have pointed out this fact to Mr. Johnson who writes regretting a "compositor's error." The explanation is unconvincing to us, particularly as the letter appears in the same mendacious form in so many different papers; but whoever made the mistake it is one that we feel should be pointed out in detail and at once or it will become the source of endless misrepresentation. Every faddist who wants to throw a brick at the medical profession, "the pure scientist," or ourselves, will certainly quote our supposed compliance with a belief that the pretensions of bacteriology have become exorbitant as well as our remarkable tribute of praise to Dr. Fitz-Gerald for having exposed those pretensions. We have experience in the methods of certain papers the proprietors of which have made abuse of the medical profession a part of their general policy.

THE THERAPEUTICS OF COMFREY.

To the Editors of THE LANCET.

SIRS,—Can any of your readers supply information as to the use of comfrey (root or leaves?) applied externally in the form of a poultice to tumours such as sarcomas which cannot be removed? How it is prepared? and has any benefit, even temporary, been derived? Also information as to the internal administration of chelidonium in similar cases.

I am, Sirs, yours faithfully,

March 6th, 1899. W. S.

ALCOHOL AS A FRIGORIFIC.

THE story goes that in the winter of 1786 Prince Potemkin, the magnificent Prime Minister to the great Empress Catherine of Russia, gave a grand banquet in his spacious palace at St. Petersburg in order to do honour to a saint who in his lifetime had been renowned for his asceticism. The Prince's dinners were celebrated alike for their sumptuousness and the multitude of guests invited, but on the present occasion all the previous efforts of the ambitious Amphitryon were placed in the shade. The tables were spread with the utmost profusion and it is on record that no fewer than 22,000 persons assembled to do justice to the fare. As may be imagined in such a hard-drinking age strong liquors were by no means lacking. Brandy, or more probably vodka, literally overflowed; the symposium gradually deepened into a furious orgie, and before long the entire company became more or less intoxicated. The weather that winter happened to be severer than usual. There was not very much snow, but a black frost had solidified every atom of moisture in the soil whilst to add to the general inclemency an icy north-east wind which cut like a knife was blowing furiously. When the drunken revellers emerged at length into the night air they were almost immediately overcome by the intense cold. All or nearly all were enveloped in furs, sheepskins, or other non-conducting wrappings which under ordinary circumstances would have sufficed to protect them, but owing to the fatal influence of the alcohol which they had imbibed the demon of Frost was able to penetrate their defences and seize upon their "vitals." Stupefied and incapable of directing their unsteady footsteps they wandered vaguely to and fro in a vain endeavour to reach the shelter of their homes; but very soon one after another they stumbled and fell to the ground and of those who thus embraced their mother Earth not one in 20 ever rose again. The number of those who perished is put down 16,000, but although this may be an exaggeration there is goo reason to believe that more than half of the carousers lost their liv on this memorable occasion. Now, whether the sad fate of Princ Potemkin's guests be authentic or not there is a moral in th tale which all who are wont occasionally to indulge in mor spirituous liquors than they are accustomed to would do well to bea in mind. Consumed in moderation alcohol does little or no harm healthy persons, while in many forms of illness it is undoubtedly very valuable medicament, still it cannot be denied that the limits physiological moderation are often exceeded by people who regar themselves as strictly temperate and are so esteemed. Whe alcohol has been ingested in a larger dose than the system can dispo of promptly the surplus becomes a source of danger to the ingesto Instead of acting as a stimulant and heat-producer it tends (wheth by inhibition and paralysis or not it is unnecessary now to inquire) bring about the congestion of internal organs at the expense of th periphery which is thus rendered comparatively bloodless an consequently colder than in the normal state. In this conditio with his blood irregularly distributed, the imbiber of surplu alcohol is peculiarly susceptible to the assaults of cold. It true that after a good dinner in a well-warmed room he may n feel in the least indisposed. On the contrary, when under suc circumstances the bottle has been circulating freely his feelings in a *probability will be distinctly* pleasurable; but no sooner is he expose to a low temperature than at once the sensation of well-being begin to vanish, the rapidity of its disappearance being in direct ratio t the quantity of alcohol which he has failed to assimilate. The it is that what are known as "chills" are so liable to attack th badly-protected organism. To guard against these subtle foes th greatest care is needed on the part of all who after spending the tim at a festival in heated rooms are compelled to face the night air whil returning to their domiciles. Too many wraps can scarcely be worn and if in spite of them a chilly feeling should make itself felt whil *in transitu* a warm drink on arrival at home will be found invaluable The ingredients of this "night-cap" are not of much importance Tea and coffee are suitable for such as can withstand the peculia effects of these beverages, or else cocoa, chocolate, soup, &c., may b taken. Whatever the potion may be the essential point is that i should be piping hot.

TESTIMONIALS TO QUACK REMEDIES.

THE following extract from an advertisement shows very well what chemical analytical record should *not* say:—

> POST'S *C. B. Q.*
>
> THE MOST EFFECTIVE CURE YET DISCOVERED FOR GOUT AN RHEUMATISM.
>
> *Extract from Certificate of Analysis.*
>
> * * * * *
>
> "I consider it to be perfectly harmless in use, effective in action and an admirable specific for the cure of rheumatic gout, sciatica lumbago, neuralgia, &c.
>
> "GRANVILLE H. SHARPE, F.C.S.,
> "Analyst; late Principal of the Liverpool College of Chemistry
> Member of the Society of Chemical Industry, &c., &c."

It would not be expedient, perhaps, to give in THE LANCET an additional notice of the above quack remedy (which occupied tw whole columns in the *Times* of March 6th) but the inquiry migh reasonably be made how a late Principal of the Liverpool Colleg of Chemistry and professional analyst (according to his own showing can have acquired the experience which can entitle him to use th language he does in the latter part of his certificate. Even as regard the preparation being "harmless" he can only define as to what h tried to find and did not find there. Its positive virtues he can kno nothing about. But if he will express a deliberate opinion upo what he knows nothing about, of what value is his statement as what he may be presumed to know?

"GLYCALYMPH."

To the Editors of THE LANCET.

SIRS,—I think it would be very desirable to find a shorter and mor easily pronounced name for glycerinated calf lymph, and I wou propose "glycalymph," which is shorter *by* 11 letters and much easi to say, the *y*, of course, retaining its sound in glycerine. Th descriptive words might be used in full for a few years in the notices vaccinate and in a few other cases, but in *by far* the greater number th word "glycalymph" would be preferable and would satisfy all requir ments.—I am, Sirs, yours faithfully,

J. P. H. BOILEAU, M.A., M.D. *Dub.*,
Late Brigade-Surgeon-Lieutenant-Colonel, Army Medical Staff.

Trowbridge, Wilts, March 6th, 1899.

THE TEETH OF THE ANNAMITES.

IN the *Revue Scientifique* of Feb. 18th M. Paul D'Enjoy gives som account of the method of blackening the teeth practised by th natives of Annam. All travellers, he says, on arriving in th country for the first time are astonished to find that *the teeth of th* natives are of a uniform lustrous black colour, like black enam This unusual condition is not the result of chewing betel, althou delusive statements to that effect are made by *the natives* for th purpose of misleading foreigners. The Annamites *abhor* white tee and have been known to say that a European with a bushy moustac and white teeth eating a piece of meat resembles a hungry cat. The process of blackening the teeth is elaborate and tedious. After being well washed they are rubbed first with powdered coral and then with rice vinegar. In the next place, the operator, using special small brushes, paints their entire surface with a mixture of honey, animal black, and powdered calamine (*tous d'aigle*) ground together. Several successive applications of this kind are made every day and afterwards the person operated on has to keep his mouth open until the material dries. This substance becomes a kind of varnish which forms a protective covering but does not penetrate to the interior layers of the tooth. The natives assert that their remarkable freedom from toothache is due to this practice.

CLUB PRACTICE IN AUSTRALIA.

To the Editors of THE LANCET.

SIRS,—I enclose you a copy of a letter which I received on Feb 20th. It may be of interest to your readers as giving further evidence of the deplorable state of affairs with regard to club practice in Australia. You can make any use you like of it.

I am, Sirs, yours faithfully,
F. DIAS.
Merton-park, S W., Feb. 22nd, 1899

[INCLOSURE.]

Victoria, Australia, Jan 10th, 1899

SIR,—I have read with interest Dr Wunderlich's and your letter on the National Deposit Friendly Society and it seems to me that you have both made out a good case for the society and I would like to become more acquainted with its working, &c. In order that I may be able to use this knowledge for a proposed conference between the friendly societies and ourselves. Personally, I have had considerable difficulty here in inducing the lodge I hold to agree to a wage limit That such was necessary you may judge when I tell you I have had on my list a member worth £33,000, and at present I have several worth from £8000 to £500 a year, exclusive of the bank manager, &c. By agreeing to take these (who were already on my predecessor's list) the lodge has given me power verbally to reject any other members, although, as they were careful to point out, their constitution (M.U.I O F.) does not permit them to reject any applicant on the score of wealth, hence their inability to give me a written agreement to do so. I get 20s. for attendance and medicine per member (which includes wife and family up to 16 years) per annum. I get no pay for fractures or minor operations except uterine, I am infinitely better paid than many men who get only 12s 6d per member per annum in the larger towns here. It is the abuse of the lodge system by the wealthy here (Australasia) which renders medical practice so hard and unremunerative. We are endeavouring to alter matters and have held an inter-colonial conference of medicos to consider the situation at which a wage limit of £200 a year was fixed upon Our next move is to have a conference between the friendly societies and ourselves in about three months time. Meanwhile we are endeavouring to form ourselves into a united body and to collect all information on friendly society matters, and it is for this reason I write to you, as the National Deposit Friendly Society seems to have conceded much that we are here seeking for.

Thanking you in anticipation and hoping I am not trespassing unduly on your time.

I remain, yours sincerely,
(Signed) ———.

JESSE FOOT, SURGEON.

To the Editors of THE LANCET.

SIRS,—Can you inform me if Jesse Foot, Surgeon, was connected with the Lock Hospital, London? I have a copy of his treatise on the Lues Venerea—lectures delivered according to the title-page in 1790 and 1791 in Dean-street, Soho, and published in 1792. I bought it a few days ago at a second hand bookshop in Colchester.

I am, Sirs, yours faithfully,
WM. H. HEWLETT, M.D Aberd.
Wivenhoe, Essex, March 8th, 1899.

⁂ Jesse Foot was a well known authority on his subject but does not appear to have been on the staff of the Lock Hospital (see the "National Dictionary of Biography").—ED. L.

"DOES ASPIRATION OF AIR THROUGH CHLOROFORM RENDER IT INERT AS AN ANÆSTHETIC?"

To the Editors of THE LANCET

SIRS,—Having seen a communication with the above heading in THE LANCET of Feb. 11th, in which Mr. A. Alison Bradburne asks if anyone has had a similar experience to his own with the chloroform that has been used in Krohne's modification of Junker's inhaler, I beg to say that my own experience to a certain extent agrees with his and that along with other members of the staff of the Keighley Hospital who have also failed to induce satisfactory anæsthesia with chloroform that had been previously used in the apparatus I now use a fresh supply of chloroform for *each administration* Having only tried this apparatus for a few months I *do not* feel able to speak very positively of its merits but I certainly think that by its use the chloroform is more quickly taken than by the open method and one learns to feel more secure against mishap in the knowledge that at no time is the patient getting more than a safe percentage of chloroform vapour.

I am, Sirs, yours faithfully,
JOHN D BERRY.
Keighley, Feb. 27th, 1899.

"THE NEW LONDON DISPENSATORY."

To the Editors of THE LANCET.

SIRS,—I have picked up an old book entitled, "The New London Dispensatory" by one Salmon, published "from the Red Balls in Salisbury-court, Fleet street, London, March, 1678." It is a bulky tome and apparently complete. Is the work of any value? Perhaps some of your readers may know.

I am, Sirs, yours faithfully,
C. R. WOOD, M B, M.D. Durh.
Frome, March 6th, 1899.

"WHAT IS ADVERTISEMENT?"

To the Editors of THE LANCET.

SIRS,—Many thanks for your kindly receipt of my letter *in re* the supposed interview with me reported in the *Echo*. I need not trouble you further but for the fact that the person mentioned therein as having called on me for "literary purposes" turns out *not* to have been the author of the said "interview" at all. I have just received (naturally to my great surprise) from an intimate personal friend who mainly gained his information from the study of my books the acknowledgment that he wrote all the articles and cast the third into the form of an interview with me, purely on his own initiative, for the purpose of making a more popular article in treating a difficult subject. This he did in utter ignorance that medical etiquette would be thereby infringed He is exceedingly sorry, and, needless to add, so am I; but I feel that I owe to the *Echo* newspaper the publication of this explanation.

I am, Sirs, yours faithfully,
HERBERT SNOW.
Gloucester-place, Portman-square, W., March 8th, 1899.

⁂ We withdraw the unfavourable comments upon the *Echo* which Dr. Snow's previous communication elicited from us.—ED. L.

WANTED A HOME.

To the Editors of THE LANCET.

SIRS,—Can you or any of your readers inform me of any institution where a child with infantile paralysis affecting both extremities would be received? He is intelligent and about four years of age. A small payment could be made.—I am, Sirs, yours faithfully,

J. LIONEL STRETTON.
27, Church-street, Kidderminster, Feb 28th, 1899.

◆

S. S. M. S.—1. Such an advertisement if brought before the notice of the General Medical Council at the time of its appearance might elicit a rebuke from that body. We doubt if the practitioner responsible for it would be struck off the Register. 2. We do not think it at all likely that the Council would punish a practitioner now for an offence committed ten years ago, unless, perhaps, it could be shown that during the whole decade his conduct had been similarly unprofessional. 3. The size of a practitioner's door-plate or notice board stating his professional hours, &c., has never been under the notice of the Council, and we do not think that in this case it would consider the boards as evidence of infamous conduct. 4 and 5. The advertisement published ten years ago was a proper reason for medical men refusing to meet the practitioner in question, but if he has since repented of his wrong-doing some of his professional brethren may hold it right to pardon him 6 and 7. There is no method of reparation open save to live a professional life that is conspicuously free from advertising, but if this has been done for ten years we should be unwilling to counsel great rigour.

S H, S.—Gerrard's Ureometer is one of the best and most convenient (Baird and Tatlock, 14, Cross-street, Hatton-garden) For sugar Johnson's Picro-saccharometer is accurate and reliable (C. E. Muller and Co., 148, High Holborn, W.C.).

P. L.—The point has not been put to us before. The answer will be found against the same initials next week

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received: *Westmorland Gazette, Cornish Times, Peterborough Standard, Norfolk Standard, Rangoon Times, Times of India, Pioneer Mail, The Morning, Hampshire Observer, Scotsman, Builder, Citizen, Architect, Western Morning News, Cheshire Observer, Newcastle Daily Leader, Bradford Observer, Daily Chronicle, Morning Leader, Yorkshire Post, Sheffield Daily Telegraph, Financial News, Scarborough Post, Manchester Guardian, Liverpool Daily Post, Public Health, Bristol Mercury, Brighton Gazette, Leeds Mercury, Sanitary Record, Middlesex Hospital Journal, Watford Leader, Nottingham Daily Guardian, Siam Free Press, North Eastern Daily Gazette, Local Government Chronicle, Mining Journal, Tunbridge Wells Advertiser, Hertfordshire Mercury, Hinckley Free Press, Hinckley Times and Bosworth Herald, Reading Mercury, City Press, Birmingham Argus, Kent and Sussex Courier, Cork Constitution, Citizen (Gloucester), Windsor Chronicle, East Anglian Daily Times, Surrey Advertiser, Local Government Journal, St. Helen's Advertiser, South Africa, Berkshire Chronicle, Clitheroe Advertiser, Bicester Advertiser, Weekly Free Press and Aberdeen Herald, West London Observer, &c.*

Communications, Letters, &c., have been received from—

A.—Dr. Aldersmith, Lond.; Prof. Clifford Allbutt, Cambridge; Mr. W. H. Allingham, Lond.; *Archives Générales de Médecine*, Paris, Editor of; Messrs. Armour and Co., Lond.; Dr. J. C. Armstrong, Treorchy.

B.—Dr. F. L. Benham, Lond.; Dr. J. Brunton, Lond.; Professor Burdon-Sanderson, Oxford; Mr. R. A. Bayliss, Bath; Berkefeld Filter Company, Lond.; Blackburn Infirmary, Secretary of; Bayer Co., Lond.; Breakfast Health Beverage Co., Redditch; Mr. E. Badcock, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; T. B. Browne, Ltd., Lond.; Mr. C. Birchall, Liverpool; Birkenhead Borough Hospital, Secretary of.

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The Lumleian Lectures

ON

BRONCHITIS, PULMONARY EMPHYSEMA, AND ASTHMA.

Delivered before the Royal College of Physicians of London

By SAMUEL GEE, M.D. Lond.,
FELLOW OF THE COLLEGE AND PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL.

LECTURE I.[1]

Delivered on March 9th, 1899

On the Causes and Forms of Bronchitis.

Mr. President and Gentlemen,—The Royal College of Physicians of London has never forgotten the exhortation addressed by Harvey "to the Fellows and Members of the said College *to search and study* out the secrets of nature by way of experiment." No doubt he used the word "experiment" in a wider sense than that which it bears at the present day, for in his time the terms "experiment" and "experience," originally *synonymous*, had not yet acquired the sharply distinguished meanings which we give to the words. My predecessors in this lectureship have usually drawn the material wherewith they have fulfilled their duty from their experience in the detection and treatment of disease, and the conditions of my life for many years past have put the necessity upon me of following in the same track to the best of my ability. How much more difficult a task this is than to compile lectures out of the unlimited data of that *factitious* experience which we distinguish as experiment is brought home to me when I recall the preparation of the *Goulstonian* Lectures which I gave in this room nearly 30 years ago. Experience cultivates a capricious soil, which too often yields a scanty harvest; the fruits of experience are *those* which nature happens to afford and no more. Our *hopes for the* future lie in the fields of experiment where *we can* work under conditions of our own making and can, as it were, propose questions to nature and compel her to answer them. Results so beneficial to mankind as those afforded by the antiseptic treatment of wounds and by the *serum treatment* of diphtheria make the followers of Hippocrates and Sydenham look with regret upon their methods, so slow when compared with those of experimental pathology.

Definitions.

Scattered through the Hippocratic treatises are frequent references to a doctrine that the brain resembles *a gland and* is the "metropolis" for separation or secretion (words which have almost the same meaning) of cold and viscid humours. When these humours have accumulated in excessive quantity the brain purges itself by discharging them upon the lower parts of the body—a process called catarrh, defluxion, or distillation of rheum, pituita, or phlegm. In the name of the pituitary body we find a survival of this doctrine. The diseases which result from defluxion of rheum have, says Plato, "many names, because the places subject *to the flux* are manifold." By the Hippocratic writers seven kinds of catarrh are enumerated; by the time of Celsus the number had been reduced to three. In the Salernitan verses these same three defluxions are enumerated, but the name catarrh is restricted to defluxion upon the lungs, catarrhus ad pulmones, pulmonary catarrh.

The change from ancient to modern doctrine is marked by a voluminous treatise in six volumes quarto, published between 1660 and 1664, and written by Schneider whose name has been given to the Schneiderian membrane. We must admire the divine leisure of the times which could allow any man to write such a book or any man to read it. This change in the doctrine of catarrh was brought about partly by the progress of anatomy and partly by Harvey's discovery which sapped the authority of the ancients.

Since Schneider's time catarrh has denoted excessive secretion of more or less altered mucus from a mucous membrane. Hence pulmonary catarrh signifies a disordered function of the pulmonary mucous membrane, the result being an excessive secretion. The corresponding lesion of structure—that is to say, inflammatory changes in the mucous membrane—is called "bronchitis," a word which was invented in 1814 by Dr. Charles Badham, a Fellow of this College, and which has to a great extent superseded the old phrase of "pulmonary catarrh." It is amusing to contrast the diminutive duodecimo of Badham with the gigantic work of Schneider. The use of the word "bronchitis" marks the predominant influence of morbid anatomy. Bronchitis and pulmonary catarrh although for the most part they denominate different aspects of the same disease yet do not exactly tally; bronchitis is not always catarrhal; for instance, it may be attended not by flux of mucus but by formation of false membrane.

Causes.

Bronchitis is a disease of much interest for the English people inasmuch as in our country a pulmonary catarrh is the commonest of disorders at all ages and in all ranks and conditions of life. In speaking thus of the frequency of bronchitis it is worthy of note that this opinion is derived from clinical experience and that bronchitis is not a condition which attracts much attention on the post-mortem table, where the severe forms only of the disease are recognised, or, indeed, one might almost say, can be recognised, without much more minute examination of the bronchial tubes than they usually receive. When we ask why bronchitis should be so common we are led to consider the causes of the malady. Let us begin with the simplest case possible and seemingly the most intelligible.

A number of men are working in a room when a large carboy of fuming nitric acid is broken. They all flee. After a time a healthy young man, having tied a wet towel round his mouth, goes back into the room and opens the windows. Symptoms of bronchitis immediately appear, painful soreness down the sternum and dyspnœa, his voice remaining natural. Next day he has a harsh dry cough and abundant small mucous râles all over both lungs; his temperature rises to 101·4° F., his pulse to 100, and his respirations to 56 in the minute. On the third day the temperature varies between 99° and 101°, the respirations fall to 44; the signs in the chest are much the same. On the fourth day the temperature falls from 100° in the morning to the normal in the afternoon; the râles have almost disappeared. On the sixth day he is quite well.

Bronchitis, being an inflammation, presumes irritation of the mucous membrane and in this case there was no reason for supposing that the irritation was originally due to anything besides the nitrous fumes, even if we admit the possibility that microbes might afterwards come to play their part upon a soil thus prepared for them. But the cause of bronchitis is seldom so simple as this.

Breathing dust has long been recognised as a cause of pulmonary catarrh: for instance, Ramazzini two centuries ago devoted several chapters of his book "De morbis artificum" to the diseases, chiefly pulmonary, which attend dusty trades. At the outset it seems to be necessary to distinguish between dust which is alive and inanimate dust. Taking inanimate dust first as being the less complex topic we must again distinguish between dust which contains soluble constituents and that which does not.

Insoluble dust is in most cases of mineral nature, yet the air of a cotton mill is smoky with vegetable dust. The bronchitis resulting from dusty trades is very chronic, insidious in onset and slow in progress. Insoluble dust is supposed to act as a merely mechanical irritant to the bronchial membranes, but can we say that any sort of dust is absolutely insoluble? And when we endeavour to look more deeply into the matter other doubts arise, as usual. We suspect that the tendency to bronchitis which prevails among workmen in dusty trades is often aggravated by intemperate habits in respect of alcohol and tobacco. Probably in some workmen there is an original disposition to suffer in this way, such as we see in many asthmatics who are very sensitive to dust. Moreover, the dust of unclean and ill-ventilated rooms will be very likely to contain morbific microbes and the irritation of the air-passages set up by inanimate dust will favour the operations of the many bacteria which are potent to cause bronchitis. It obviously would be very improbable that these microbes should swarm in impure air and should not be found in the upper air-passages of man. And thus, as a matter of fact, our mouths, becoming active and virulent, when, to quote the Virgilian phrase of which Sydenham was so fond, *qua data porta ruunt*.

Although it is probable that inanimate dust is sometimes noxious by reason of its soluble constituents yet it is not easy to point to many instances of this kind. The dust of ipecacuanha, which is often referred to, produces asthma rather than catarrh, but it may be that this is a distinction without real difference.

The topic of living animated dust follows in natural order. The best instance of this kind of dust is afforded by the pollen of grass which seems to have been proved capable of causing hay fever in some susceptible persons, though that in which the irritant power of pollen inheres is not known. And the question is complicated by the fact that in a few persons the mere odour of roses and some other flowers seems enough to provoke catarrh. although, since the famous experiment of Dr. J. Noland Mackenzie, with an artificial rose, we have learned how large a part in the production of such a catarrh can be played by the power of imagination. Moreover, the particles which convey the smell of flowers must be far too minute to be rightly called dust and therefore we will not pursue the subject here, but only remark that hay fever affords the best evidence of that idiosyncrasy which predisposes to catarrh.

The catarrh which is caused by the living dust thrown off by certain moulds and fungi is sometimes a much more serious affair. The best known of these fungi is the dry rot of deal wood—merulius lacrimans. The disease it sets up is sometimes fatal. Beside the catarrhal symptoms indicated by the epithet "lacrimans" there are signs of poisoning of the whole body. The fungus grows upon the mouth and fauces, whence we may assume that the morbific agent consists of living seeds which under favourable conditions will strike root in the human body, will increase and multiply, will become, in fact, true parasites, and will poison us with their secretions.

Grass pollen is morbific, dry rot is morbific and parasitic, but they are only *accidentally* so; it is not the purpose of their life to cause disease in man. But there are certain living particles called "microbes" which are *essentially* morbific and parasitic, which to the best of our knowledge are that and nothing else, which continue to exist by causing disease and for that sole purpose, as it seems to us—which are morbific or nothing at all because, being merely parasitic in animals, it follows that if these animals ceased to exist the microbes also would become extinct. Some of these microbes are found almost everywhere; they pursue the steps of men and are apt to attack us at all times and places. But some microbes thrive only under certain circumstances; the best known of these causes of bronchitis are typhoid fever and influenza. In some forms of bronchitis the disease is local and expends itself upon the mucous membrane; the catarrh is protopathic. But in typhoid fever and influenza the case is different, the catarrh is deuteropathic and secondary to infection of the whole system. These two diseases are members of the great class of specific fevers and we are compelled by analogical reasoning to believe that other members of that class which are still more powerful causes of bronchitis are also microbic in nature—for example, measles and whooping-cough. How they cause bronchitis is a question not yet ripe for answer, meanwhile we assume that some irritant is conveyed to the mucous membrane by the blood.

We have now passed from the simplest to the most complex causes of bronchitis so far as our knowledge will allow and yet by far the greater number of actual cases of bronchial catarrh remain unexplained. What is the explanation of a common cold? We can hardly doubt that chill by exposure of the body has often something to do with it, but how? Let us note that colds are seldom caught, as we say, in pure air—at sea, for instance—no matter how great the exposure. Let us note also that common colds are often contagious with an incubation period of about three days. You will remember the deeply interesting experience of the St. Kilda cold, a fact which seems to be well proven notwithstanding the incredulity of Dr. Samuel Johnson and which seems to show that persons who are not themselves suffering from catarrh may yet convey the disease to others, and that a cold past and gone confers temporary immunity. We have heard of late that upon some of the small islands in Torres Strait the natives until they took to wear clothes were exempt from coughs and colds. But it is difficult to understand how the mere fact of clothing pure and simple can have been the cause of those disorders. It would seem to be more probable that the inhabitants have been infected by their clothes or other means and that the catarrhs have been really due to the intruding foreigner who brought along with him his civilisation and his diseases.

THE CATARRH.

Of the signs which make bronchitis manifest in the living body the most important is the catarrh, the excessive secretion of mucus. We might expect that physicians would pay great attention to the sputa, and such has been the fact from the earliest times. A sharp distinction has been drawn, since Hippocrates at least, between transparent sputa and opaque sputa; chiefly for prognostic reasons based upon the old doctrine of the concoction of humours, opacity being the sign of maturity and a stage which the secretion must pass through before the catarrh can end in recovery. This distinction being of such prime importance in the opinion of ancient physicians, it is remarkable that they had no words in use to correspond with their ideas. "Phlegma," "blenna," "pituita," "mucus," all these words were used haphazard to signify matter constituting the sputa, whether transparent or opaque. In truth, the distinction is not of great value; however true it may be of acute coryzal secretions that the mucous discharge becomes muco-purulent on the way to recovery we do not always mark these stages in bronchitis even when acute, while in chronic bronchitis the distinction is of small importance, either prognostic or diagnostic. How common it is to see mucous and purulent sputa in the same spitting-pot; to see purulent sputa floating or lying in thin, transparent, colourless mucus: probably the different secretions come from different parts of the bronchial tract. How common it is to observe that sputa expectorated at different times of the day are different in character, the secretion being, for example, nearly pure mucous throughout the day, but much more purulent the first thing in the morning after sleep.

PITUITOUS CATARRH.

To the general rule that the distinction between crude and concocted sputa is unimportant there is one exception worthy of special note. Laennec, in his chapter upon pulmonary catarrh, has much to say concerning a form of catarrh which he calls "pituitous." He uses the word "pituita" in a sense of his own; he makes it signify colourless, transparent, stringy sputum, frothy at the top, and which when the froth has been removed resembles water stirred up with white of egg. We must all recognise the truthfulness of this description. Louis compared the sputum to gum-water, Borsieri to soapsuds. It is to be wished that the word "pituita" be used to denote this kind of sputum only, because there is no doubt that the catarrh which Laennec calls pituitous does present peculiar characters.

He remarks that pituitous catarrh is symptomatic of other pulmonary diseases besides mere bronchitis, especially œdema of the lungs and miliary tuberculosis. With respect to œdema of the lungs let us note that the albuminous or serous expectoration which occasionally ensues upon paracentesis for pleural effusion, and which depends upon acute œdema of the lungs, and which always brings danger and often death, has to the eye all the characters of pituitous flux. Testing the sputa can alone distinguish the two: serous expectoration is highly albuminous; pituita is not albuminous at all. With respect to tubercle let us note that not only miliary tuberculosis but also massive grey tuberculous infiltration may be attended by pituitous expectoration. A man, 35 years old, had a shivering fit on Sept. 6th. On the 8th he felt sudden pain in the right side of his chest, he coughed, and was feverish. On the 16th he was admitted to the hospital, being the eleventh day of his disease. Consolidation of the upper part of the left lung was found, and the previous symptoms having been those which most usually attend pneumonia it was thought that the lung was hepatised. But the consolidation did not clear up as was expected; on the contrary, the physical signs of disease increased, and by Oct. 10th (the end of the fifth week of illness) the breathing about the left nipple was cavernous. All this time the sputa were pituitous, a fact which seemed contrary to the notion of ulcerating tubercle; moreover, the expectoration was examined twice for tubercle bacilli, probably with insufficient care, and I am speaking of a time seven or eight years ago when there was less skill in this method of examination than at present; but, at any rate, tubercle bacilli were not found. Soon afterwards the pituitous sputum became mingled with muco-purulent masses; the physical signs were much more extensive; finally all the expectoration was muco-purulent and nummular and the man died on Dec. 25th after an illness of between three and four months. Post mortem the left lung was found to be solid with grey tubercle from apex to base; there were only two cavities and these of small size.

Besides pulmonary œdema and tubercle there are two other diseases of the lung which are often attended by pituitous expectoration—namely, the congestion which is consequent upon a dilated heart and contracting cancer.

Pituitous catarrh is sometimes "idiopathic"—a word which we need not be afraid to use provided we attach a definite meaning to it. The original and etymological meaning of the word is its true meaning and pituitous catarrh is idiopathic when it constitutes the whole of the disease. It is sometimes acute, sometimes chronic, and in either case is a very serious condition. The acute catarrh occurs at all ages and often in persons perfectly healthy who have shown no previous tendency to pulmonary disease. The secretion rapidly becomes so profuse that it puts life in jeopardy and will sometimes even kill by suffocation in a day or two. Yet for the first few hours the attack resembles a common cold with cough, and there are no peculiar symptoms attending the earliest stage which enable us to foresee that we have to do with the beginning of so formidable a disease. It does not always kill; sometimes it runs the course of ordinary severe bronchitis and ends in recovery.

Chronic pituitous catarrh is more common. It is serious on account of its obstinacy. To Laennec's admirable description of this disease there is nothing to add unless it be to say that it does sometimes attack persons in the prime of life. A Japanese, 25 years old, came over as a ship's steward to England and immediately upon his arrival began to suffer from shortness of breath and cough—a new thing for him. After these symptoms had lasted for 14 weeks he was admitted to the hospital. There were much dyspnœa and most abundant expectoration of pituita. Tubercle bacilli were not found. The physical signs were those of severe bronchitis. For days together he seemed about to die from suffocation, but under very careful treatment he improved until, without any obvious cause, the symptoms recurred in full severity. Another improvement was followed by another relapse and more than four months had passed away since his admission ere he could be discharged fairly convalescent. This was on May 8th; but on June 16th he was readmitted with all his former symptoms; he went out on July 16th. On Dec. 5th he was admitted once more and the time of the year was probably the reason why we could not get rid of him till Feb. 25th. He had now been a patient on and off for more than a year and as there seemed no end to this sort of thing the sister of the ward got up a small subscription and shipped him off to the antipodes

PECULIAR KIND OF BRONCHITIS.

There is a form of disease which may justly claim to be called catarrhal if we use that word in its strict etymological sense. Graves, speaking of the condition referred to, says: "When an old person reduced by some previous disease catches cold and gets in consequence a sudden and remarkable hoarseness so that he can only speak in whispers; when in addition to this he has cough, stridulous breathing, and copious muco-purulent expectoration, you may be sure that the case is a bad one and the patient in most imminent danger." He goes on to say that the disease is accompanied by considerable fever and that he did not recollect that he had ever seen an attack of this kind that did not terminate fatally. He narrates the case of an eminent country practitioner who "had got an attack of cold followed by hoarseness, which went on for two or three days without being attended to, until one evening he suddenly became alarmingly ill. He was found to be labouring under hoarse breathing, constant laryngeal cough, prostration of strength, and enormous muco-purulent expectoration. His pulse was very rapid, he complained much of oppression of the chest, and he died on the following night, more with symptoms of exhaustion than of asphyxia." Graves tells of another similar case in which the "breath became exceedingly fetid. The expectoration also exhibited a very remarkable change; it was greenish, ichorous, and had a most intolerable fœtor. He now began to manifest symptoms of awful prostration; his distress of respiration became intense, his eyes fixed, his extremities cold, and he expired in about 40 hours from the commencement of the attack."

But this form of bronchitis sometimes occurs in old people whose health has certainly not been "reduced by some previous disease." I saw a lawyer, 74 years old, with Dr. T. Robinson. He was in good health when one April, while waiting for a train at Wimbledon, he was exposed to a chilling east wind. Next day, April 8th, he lost his voice. On the 9th his breathing became a little affected and swallowing was very painful. His voice was not much more than a whisper. Seen by the laryngoscope the epiglottis was very red but not much swollen; the ary-epiglottic folds were not swollen; the glottis was widely open and through it there welled up much muco-pus. On the 10th he seemed better in all respects. He expectorated much brownish muco-pus which, both in colour and smell, reminded one of the sputum of gangrene; this phlegm came up with the least possible effort, hardly amounting to cough. The laryngoscope showed that the redness of the epiglottis was less and that there was no swelling whatever. The voice was much louder. But during the night he became worse; fever appeared for the first time and he complained of pain in the left side. The laryngeal symptoms were gone and his voice was natural, but his breathing became very frequent and he died at evening on the 11th. The fœtid expectoration calls for remark. Graves assumes that in his case the lung had mortified, but he gives no proof of this, and in my case the fœtor occurred within 48 hours from the beginning of the illness in a man previously healthy. Gangrene would hardly set in so rapidly as this. To suppose, in the absence of post-mortem examinations, that the smell is due to decomposition of the secretions—to a fœtid bronchitis, in short—would seem more probable.

Disease of this kind is not peculiar to the old. Some years ago I saw a boy, aged seven years, with Dr. Bland. The patient had been seized a day or two before with laryngeal symptoms which, when I saw him, deserved the name of croup, and the dyspnœa became so urgent that tracheotomy was demanded and performed. We could see that the epiglottis was not swollen but we could make out nothing more, for examination by the laryngoscope brought on vomiting. The dyspnœa was somewhat relieved but the boy died a few hours after the operation with all the signs of pulmonary dyspnœa. The only part which we were permitted to examine post mortem was the larynx; its mucous membrane was exceedingly red, but there were no false membranes and no œdema, nor were false membranes expectorated or seen during life. The laryngitis was a part (but at first the most obtrusive part) of more widely diffused inflammation. When tracheotomy set the laryngeal symptoms aside the bronchitis became manifest. Moreover, in this case there was no reason for suspecting measles. The analogy of the early laryngitis stridula of that disease will occur to your minds at once.

It is likely that the disease in question is essentially of the same nature as œdema glottidis—that is to say, a specific inflammation spreading rapidly, like erysipelas. Hippocrates uses this very word and in several places speaks of erysipelas in the lung, but to identify the disease thus designated by him is not easy.

DYSPNŒA.

To breathing with conscious effort we give the name of dyspnœa. It arises from a peculiar sensation which is not always of the same kind. Two sensations at least can be distinguished. One is sensation of want of breath and impels to inspiration; another sensation impels to expiration. The feeling of want of breath arises within the chest and seems to involve all the thoracic organs. The feeling which impels to expiration seems to arise from the windpipe—that is to say, a patient suffering from expiratory dyspnœa will refer this feeling to the manubrium sterni and region of the trachea. This tracheal sensation closely resembles the feeling which impels to cough and it is the cause of that expiratory groaning which is so common during the uneasy sleep of patients suffering from bronchitis, emphysema, or heart disease. I do not refer to snoring or stertor, which are inspiratory noises. Thus medical physiology requires two respiratory centres, one for inspiration and one for expiration.

It has been said that in bronchitis attended with laborious breathing the chief difficulty is in inspiration; that the expiratory act, on the contrary, is always accomplished with comparative ease; and that these phenomena of laborious breathing, particularly the long-drawn, exhausting, inadequate inspiration, are probably quite peculiar to obstructive bronchitis. But surely these propositions are far from being universally true. Even in slight bronchitis occurring in a man who never had bronchitis before the expiration may be much more forced than the inspiration in consequence of the provoking tracheal sensation spoken of before. In chronic bronchitis when the patient raises phlegm with difficulty the most obvious thing about the respiratory movements in many cases is the forced expiration. If we would see inspiratory dyspnœa in its highest degree and purity it is not to bronchitis, but to laryngitis, that we must look; to angina laryngea, not angina bronchialis. In mere bronchitis we seldom see anything like the inspiratory dyspnœa of croup.

LIVIDITY.

Lividity is not a marked symptom of bronchitis except in the worst cases. When we see a patient whose dyspnœa amounts to orthopnœa and whose lips are purple or almost black we suspect at first sight disease of the heart rather than disease of the lungs. Again, if we see great lividity in a case of bronchitis we suspect some complication—for instance, pulmonary emphysema, extensive collapse, broncho-pneumonia, scattered tubercle, or distended heart.

The phrase "suffocating catarrh" has been used in senses so varied that some persons have suggested that it should be wholly discarded. Even apoplexy and croup have borne that name. We can continue to use it only on condition that suffocating catarrh shall signify bronchitis in which the patient is in danger of being stifled by bronchial secretion thrown out more rapidly than it can be expectorated. The metaphorical phrase "paralysis of the lungs" has been applied to these cases of catarrhal infarctus. We meet with suffocating bronchitis under three conditions. First, in infants; and a main cause of their liability to suffocating catarrh is to be found in the shape of their thorax which, being almost circular on horizontal section is incapable of more than small lateral expansion. The only extraordinary enlargement which their chest can undergo is by vertical elongation, upwards by means of the accessory inspiratory muscles and downwards by excessive diaphragmatic contraction. Moreover, their ribs are often soft and rickety. Next, we meet with suffocating bronchitis in adults when they are attacked by pituitous catarrh in a severe degree. And, thirdly, suffocating bronchitis is common as an exacerbation of chronic bronchitis in persons who are for the most part advanced in life.

In these cases, post mortem, we often find that form of pneumonia which bears no name adopted universally. Our own Nomenclature gives us the choice of three names. We may use the name "lobular pneumonia," in contradistinction from lobar pneumonia; or "broncho-pneumonia" in contradistinction from pleuro-pneumonia; or catarrhal pneumonia in contradistinction from what has been called "croupous pneumonia." The name of broncho-pneumonia is to be preferred. Croupous pneumonia is what Polonius would have called a very vile phrase. It is amusing to note how the Lowland Scotch word "croup" (the cognate English word is "roup") which signifies a certain kind of noise, has come to be applied to a morbid exudation—a perversion due to foreign pathologists who could not have known the meaning of the word which they were using or abusing. And thus croup, having undergone this strange metamorphosis in the course of his travels abroad, comes back disguised to his native land and we receive him with open arms. Such are English ways.

Broncho-pneumonia is the last stage of inflammation extending downwards along the air-passages into the pulmonary lobules. Catarrh implies a mucous membrane; but the bronchiola which feed the pulmonary lobules with air possess no mucous membrane; in these parts, therefore, lobular hepatisation takes the place of bronchial catarrh. The difference in the products of exudation depends more upon the situation of the disease than upon any difference in its cause. The microbes found in lobular pneumonia are the same as those found in bronchitis although the relative frequency with which they are found is not the same in the two diseases. To the last volume of St. Bartholomew's Hospital reports Dr. Horton-Smith has contributed a valuable paper upon the bacteriology of acute broncho-pneumonia. He finds that the microbe most frequently present is pneumococcus, less frequently streptococcus, and still less frequently staphylococcus. He finds that the broncho-pneumonia of typhoid fever is due to these common microbes and not to the special typhoid bacillus. But he thinks that the broncho-pneumonia of diphtheria and influenza most frequently depends upon their several proper and peculiar microbes; and yet that in a few cases the pneumonia is not specific—that is to say, none but the common pyogenic microbes are found. One very practical truth has been well established—namely, that in measles the frequency with which broncho-pneumonia occurs is dependent upon the degree of impurity in the air breathed. The main cause of death in measles is broncho-pneumonia, and the mortality in some epidemics has been as high as 50 per cent. Thus any mysterious change of type or epidemic constitution seems to be resolved, so far as concerns measles, into the condition of the air breathed by the patients. Hence the necessity for isolation, for ventilation, and for cleanliness.

The pneumonic part of broncho-pneumonia is a post-mortem disease or, in other words, it can seldom be detected with certainty during life. In severe progressive capillary or suffocating bronchitis which threatens the patient with death we may assume that lobular pneumonia is present, inasmuch as it is the last stage of the disease. Neither symptoms nor physical signs help us much; the patient is too ill to bear prolonged examination; nor does it matter in the least whether we detect the pneumonia or not, for our treatment is the same in both cases.

CHRONIC BRONCHITIS.

Chronic bronchitis associated with emphysema, and in all respects like the disease common in old people, is by no means very uncommon in the young—that is to say, in patients under 20 years of age. But this is the case especially among the lower classes of the people; among the well-to-do chronic bronchitis is uncommon in the young. When we bear in mind that with asthma it is quite the reverse—that juvenile asthma is common among the well-to-do and uncommon among the lower classes—the suspicion arises that we have to do with what is essentially the same disease assuming different forms under different conditions of life. The poor are very careless with regard to their health and it is probable that through neglect what would otherwise be asthma becomes a chronic pulmonary catarrh.

The heart is dilated more easily in children than in adults and thus cases of juvenile chronic bronchitis gradually pass into a state wherein the symptoms of dilated heart predominate over those of the original disease. Some years ago I examined the body of a boy, 13 years old, who had suffered from chronic bronchitis since 18 months of age, when he had measles and whooping-cough. He was so deeply cyanotic that the question of malformed heart arose; his fingers were much clubbed and there was universal dropsy. The post-mortem examination showed emphysema of the lungs, especially of their anterior parts. The right side of the heart was much dilated and hypertrophied, but there was no valvular disease nor was there any malformation. The liver was nutmeg.

That predisposition which tends to make bronchitis chronic is often hereditary and is often acquired. In many persons a powerful assistant cause of the chronic bronchitis is alcohol. Sydenham alludes to this fact when speaking of "peri-pneumonia notha," which no doubt for the most part consisted of febrile exacerbations of chronic bronchitis. He says that the disease "affects those who are of virile age, or, what oftener happens, those who are older and who have been too much given to spirituous liquors, especially to brandy." The evil effect of alcohol is sometimes seen in persons who cannot be justly called intemperate and a marked diminution of the tendency to bronchitis will sometimes occur in patients who become total abstainers after having been in the habit of drinking not more than a usual quantity of wine. The swollen, deeply red, and irritated soft palate of many hard drinkers probably affords a clue to the nature of alcoholic bronchitis.

Post-mortem examination of the bodies of persons past middle life reveals the fact that their chronic bronchitis is seldom unassociated with chronic nephritis, arterio-capillary sclerosis, chronic endocarditis or pericarditis or myocarditis, and atheroma of the aorta, not to speak of pulmonary emphysema—lesions which constitute an important part of the condition which we designate "old age."

That a tendency to chronic bronchitis and a tendency to gout concur in many patients is a frequent experience and there can be no objection to our expressing this fact by calling the bronchitis gouty, provided the evidence of gout be sufficient. But I fear that gouty bronchitis is often talked about when the evidence of gout is small. Before the term "gouty" is predicated of any disease the reasons for the affirmation ought to be carefully examined. To define the word "gout" is not possible, the essential nature of gout we do not know. Doubtless there are satisfactory criteria or notes of gout, such as regular attacks in the hand or foot, tophi, and the discovery of uric acid in the blood. But medical men are often content with much lower probability than this when they pronounce a patient to be gouty and I am far from saying that they are wrong. Howbeit the name of "gout" has been extended in meaning so as to include a vast number of diseases, but whether these speculations are as sound as they are ingenious, whether they are solid structures grounded on truth or no more than the phantoms of a lively imagination I will not take upon myself to determine. Time will show. "*Medicina non ingenii humani partus est sed temporis filia.*"

PHTHINOID BRONCHITIS.

There is a form of chronic bronchitis which bears a close resemblance to tuberculous pulmonary consumption; the disease is nothing but bronchitis, yet the symptoms are those of phthisis pulmonalis. The interest of this topic is mainly antiquarian for us because it throws an important light upon the progress of pathology. Before the invention of auscultation the patients alluded to were necessarily believed to be suffering from pulmonary consumption, and, indeed, they were so suffering in the original sense of the phrase. For the epithet, "consumption" or "phthisis," related to the condition of the whole body, to the progressive emaciation in fact, while the word "pulmonary" indicated that the disease, whatever it was which caused the emaciation, was seated in the lungs. This was the sense in which our eminent Fellow, Richard Morton, used the phrase in his admirable book entitled "Phthisiologia." In the phthinoid or consumptive form of bronchitis there is an abundant expectoration of purulent sputa. The early physicians knew of no source of pus but an ulcer and hence they inferred that the lungs were ulcerated. The first man to discover that this was not the case was that singularly accurate observer Antony de Haen; but even after he had shown that the lungs, examined post mortem, were to all appearance sound, free from all ulceration, and yielding not a drop of pus on section, yet matters were not much advanced for practical medicine because the diagnosis could not be made during life. And here the subject stood until the time of Laennec. Perhaps you remember that Sir Thomas Watson confessed in his lectures that he once made this mistake and pronounced a young woman to be in the last stage of consumption who soon afterwards made a rapid and complete recovery, he having omitted to auscultate her chest. Even auscultation does not always enable us to distinguish these cases with perfect certainty, but since Robert Koch's discovery of the *tubercle bacillus* we have a potent auxiliary to diagnosis in the microscopic examination of the sputa.

CONCLUSION.

In conclusion, we will revert to the results of our search into the causes of bronchitis. We found it to be highly probable that most catarrhs are due to a specific infection and they often depend upon contagion spreading from man to man. This doctrine has very important bearings upon medical practice. It leads us to believe that the means by which we may prevent catarrh are to be found in ventilation and cleanliness, if, indeed, ventilation be not a kind of cleanliness. Experience confirms this belief. When epidemic catarrh prevails where do we find most of our patients? In those houses which are obviously the worst ventilated, even though they be the spacious houses of the rich. And where do our patients catch their catarrh? Either in houses of the kind which I have mentioned or in buildings where men most do congregate, especially in offices, shops, and churches. Large shops and stores, public museums and libraries, are ventilated as little as possible for fear of their contents being spoilt by smoke and dust. Many churches both in town and country are never properly aired for another reason—namely, because their architecture does not admit of it. Those "rich windows which exclude the light" do worse than this, they exclude fresh air. The revival of Gothic architecture has been, from the sanitary point of view, a great mistake. Our despised forefathers of the eighteenth century erected plain and simple buildings which could at least be well aired, well-lighted, and kept warm and comfortable; nay, even the much ridiculed churchwarden, with his brush and pail of whitewash, was a praiseworthy minister of health. Modern dwellings are no better than the churches. In the matter of domestic sanitation people have fixed their attention too exclusively upon the drainage and the water supply; light and air are not reckoned. Many of the large red-brick houses which have been built in great numbers at the West end of London and elsewhere during the last 25 years cannot be properly ventilated. The well of the staircase ought in every house to be a reservoir of pure air and to have an independent supply from without. But in many houses the staircase cannot be ventilated except through the rooms, and, in fact, it never is ventilated. Nor are the rooms themselves much better off; their heavily mullioned windows are designed with small regard to the transmission of light and air. The subsidiary and merely ornamental arts which do no more than please the eye are studied to the neglect of that far greater art which promotes the happiness and welfare of the whole man, the Art of Preserving Health.

The Goulstonian Lectures

ON

THE PATHOLOGY OF THE THYROID GLAND.

Delivered before the Royal College of Physicians of London on March 7th, 9th, and 14th, 1899,

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LECTURE III.[1]

Delivered on March 14th, 1899.

COMPENSATORY HYPERTROPHY.

MR. PRESIDENT AND GENTLEMEN,—The whole question of compensation and compensatory hypertrophy of organs in disease is of such great interest and practical importance to us that any facts which tend to throw light on the conditions under which they are developed are of value. In health we can by specially arranged exercises bring into operation the pathological law, that any muscle contracting intermittently against an increased resistance which it can overcome undergoes hypertrophy, and thus induce hypertrophy of the biceps or any other muscle. In some diseases our chief object is to favour and encourage compensating hypertrophy by every means in our power. In valvular disease of the heart adequate compensation in the form of "work hypertrophy" is of prime importance, the object of our treatment being to encourage and maintain its proper development and as long as possible ward off the disastrous effects of its failure. All hollow muscular organs develop compensatory muscular hypertrophy when their work is increased by some abnormal resistance to the expulsion of their contents which can be overcome by an extra effort. Other tissues also can undergo similar changes, an example of which is given by the condition of the blood in cyanosis. It has been shown by Toeniessen, Gibson,[2] and others that in the intense cyanosis of congenital heart disease the hæmoglobin is increased in amount and the red and white corpuscles are increased in number. The hæmoglobin may be increased up to 120 or 160 per cent. of the normal amount, the red corpuscles up to 9,000,000 (about double the normal number), and the white to 16,000 in each cubic millimetre of the blood. These changes may fairly be regarded as indicating a compensating hypertrophy of the blood which enables it to carry more oxygen in face of the adverse conditions under which the circulation is carried on. Marie regards a similar increase in the number of the red corpuscles which occurs in those who live at high altitudes as a similar compensation. The glandular organs of the body have also remarkable powers of development under the influence of appropriate stimuli, as, for example, the development of the mammary glands during pregnancy. Both secretory and excretory glands can undergo compensatory hypertrophy when a portion of the gland has been disabled by disease or design in such a manner as to throw an increased amount of work upon the remainder. The stimulus of working at higher pressure than normal here as in the heart leads to a development of a compensatory hypertrophy, such, for example, as is seen in one kidney after the removal or destruction by disease of the other.

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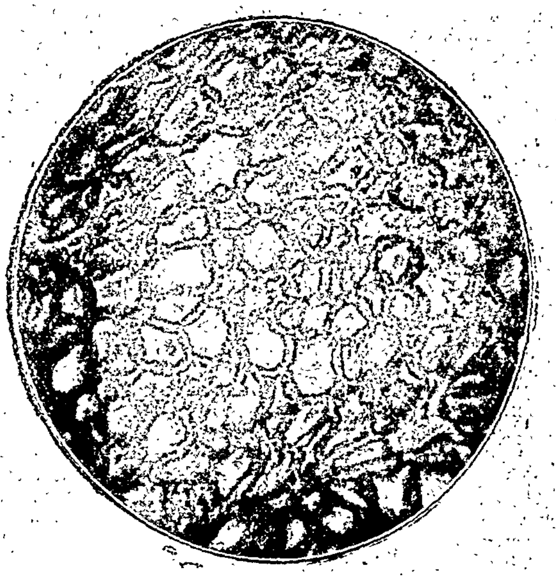
[1] Lectures I. and II. were published in THE LANCET of March 11th, 1899.

[2] THE LANCET, Jan. 5th, 1895.

It is important in all cases to ascertain the minute structure of organs which have thus developed a compensatory hypertrophy for it is not necessarily a simple hyperplasia or exact reproduction of the normal structure. In the kidney Lazarus-Barlow[3] states that there is hyperplasia of the cells and hypertrophy of the glomeruli, and he quotes Eckhart's statement that if the hypertrophy is the result of congenital absence of one kidney there is both hypertrophy and hyperplasia of both glomeruli and tubes; if later in life one kidney is destroyed or removed hypertrophy without hyperplasia of either glomeruli or tubes is found in the other. Owing to the special anatomical position and physiological properties of the thyroid gland it affords unusual facilities for observing some of the phenomena of compensatory hypertrophy. It is now a well-known fact owing to the work of Horsley,[4] Halsted,[5] and Edmunds[6] that when a portion of the gland is removed the remainder undergoes compensatory changes in virtue of which it is enabled to supply enough secretion to prevent the appearance of the symptoms of athyroidism. The portion removed at one time may be one-half or even three-quarters of the whole gland and Halsted has shown in the dog that successive portions, if removed on three or four separate occasions, may be excised until only one-eighth or even one-sixteenth of the original gland is left without symptoms of athyroidism being developed, so great is the power of undergoing compensatory hypertrophy. Although these changes are accompanied by an increase in size the hypertrophied remainder does not attain the size of the original gland, so that weight for weight it has to do more work than the original glandular tissue. Under these circumstances it is not so surprising that the structure of a piece of the gland which has undergone compensatory hypertrophy should differ somewhat from that of the normal gland. And this we find to be the case, for when sufficient hypertrophy has developed to supply as much secretion as is necessary we do not find a simple hyperplasia of the original glandular tissue but considerable change in structure throughout. The alveoli instead of being nearly circular become irregular in outline. This change is due to the folding of the wall which projects at different points into the lumen of the alveolus. In advanced hypertrophy the lumen may appear to be star-shaped or it may be almost obliterated by neighbouring folds of epithelium coming into contact. The appearance in places may then closely resemble that of a racemose gland. The epithelial cells themselves are also altered. They are considerably increased in size, the ordinary low cubical epithelial cells being converted into tall columnar cells. The result of these two changes is that in equal areas the secreting cells are greatly increased both in numbers and size in the hypertrophied as compared with the normal gland. The colloid lying in the gland is diminished in amount and appears to be more watery in consistence than normal. This change in consistence cannot, however, be accompanied by any deficiency in the active ingredients of the secretion as it is able to prevent the onset of any symptoms of athyroidism. The appearances just described are evidently those of glandular tissue working at high pressure and just able to supply the necessary amount of secretion without storing any in reserve in the alveoli as is usual in the normal gland.

In illustration of these changes I may refer to an experiment in which I removed the whole of the left lobe and the greater part of the right from a rhesus monkey. After the operation there was slight hebetude and harshness of the voice. No other symptoms developed although the animal was kept under observation for 14 months and then was killed as it contracted general tuberculosis. A piece of glandular tissue which had developed from the small portion of the right lobe left at the operation was found, weighing 0·42 gramme. Fig. 14 shows the changes in structure which had taken place. The folding of the epithelium giving a larger secreting surface is clearly seen and in some of the smaller alveoli near the centre the consequent irregular shape of the lumen is evident. The epithelial cells have become columnar in type while the colloid is scanty and seems to be watery in consistence.

FIG. 14.



Compensatory hypertrophy of the thyroid gland of a monkey, showing plication of alveolar wall, scanty colloid and columnar epithelium.

The remarkable results which have been shown by Dr. Rose Bradford to follow the excision of a portion of the kidney and which were so well described by him in his Goulstonian Lectures last year raise the question as to whether these changes in the structure of the thyroid are due entirely to the wants of the body acting as a stimulus to the compensatory growth of the gland or whether they are in any way due to some other local or general effect of the operation itself. If the compensating growth of the one lobe takes place simply in response to a call for more secretion to make good the loss of the other lobe no hypertrophy should take place if this want is fully supplied from other sources. This point may be tested by removing one lobe of the gland and giving thyroid secretion continuously for some time and then removing the other lobe for examination. If no changes indicating compensatory hypertrophy are found in the second lobe it goes far to show that the hypertrophy develops simply as the result of an insufficient amount of thyroid secretion being present in the blood. To test this point the right lobe and parathyroid were removed from a male bonnet monkey. For the next three weeks 12 minims of thyroid extract were given in the course of each week. Then as the animal became rather emaciated the quantity was reduced to half this amount for the next five weeks. Slight myxœdematous symptoms then appeared, but they diminished on increasing the dose to 24 minims in the week; this was continued for two and a half weeks when the animal died from dysentery. The left lobe was found to be pale in colour and only weighed 0·03 gramme. No parathyroid was found attached to it. Microscopical sections showed no signs of compensating hypertrophy even in its earliest stages. In another experiment the right lobe and parathyroid were removed and one minim *per diem* of thyroid extract was given by the mouth for 16 weeks and then the left lobe and parathyroid were removed. The right lobe with the parathyroid which was removed first weighed 0·3 gramme and was found to be abnormal in structure to start with, as it resembled a hypertrophied gland in structure.

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[3] Manual of General Pathology, p. 537.
[4] Brit. Med. Jour., Dec. 5th, 1896.
[5] Johns Hopkins Hospital Reports, 1896.
[6] Journal of Pathology, January, 1893.

Similar appearances were found by Halsted in the thyroid gland of several healthy dogs. The occasional occurrence of such changes in apparently healthy animals is at present difficult to explain. The interesting point in this case is that after the prolonged interval of 16 weeks during which the extract was given the left lobe was found to be paler in colour and it weighed 0 25 gramme. The microscopical structure was normal and showed no signs of commencing compensatory hypertrophy. If this lobe was originally in the same condition as the right the treatment seems to have restored it to a normal condition, and if not it at any rate showed no signs of compensating hypertrophy. As far as they go these experiments tend to show that if the proper amount of secretion is supplied after the removal of one lobe compensating changes do not take place in the other.

In connexion with this part of the subject I have tried the effect of prolonged administration of thyroid extract upon the healthy thyroid gland. It is well known that parenchymatous goitres often decrease in size when treated by thyroid extract. One explanation of this result is that a partial atrophy from disuse is established when the full amount of secretion is supplied from an external source. Two experiments have been made to ascertain if any atrophic changes could be induced in the healthy thyroid gland by supplying secretion ready made, as it were, and so doing away with the normal stimulus to secretion. The thymus atrophies after the first year of life from disuse and the thyroid does so itself in old age possibly for the same reason.

A small bonnet monkey was given one minim of thyroid extract *per diem* by the mouth for 44 days and then three minims for 31 days. The thyroid gland was then removed It looked small and pale in colour and with the two parathyroids weighed 0 11 gramme. The microscopical appearance of the gland was normal, the epithelial cells and their nuclei being stained as usual and the alveoli were well filled with secretion. In another similar experiment a male bonnet monkey was given one minim of thyroid extract for 44 days and three minims daily for 42 days. The thyroid gland was then removed and with the parathyroids weighed 0·14 gramme. The nuclei were all stained and the alveoli were well filled with secretion There was rather more fibrous tissue in the interalveolar spaces than is generally seen in the normal gland, but not a sufficiently well-marked increase to amount to a pathological change. The glands were certainly pale in colour and light in weight and appeared to have undergone some diminution in size, but no evidence of atrophic changes was found in the microscopical specimens. Possibly if larger doses had been given for a longer-period some more definite change in the structure of the gland might have been found.

GOITRE

The pathology of goitre is a subject of much importance for the disease is still endemic in this country in the valleys which drain the Pennine Range of hills east and west from the Border as far south as the Peak in Derbyshire Time will not permit me to discuss the origin of endemic and sporadic goitre, but I wish to draw attention to the interesting effects which have followed the treatment of simple parenchymatous goitre by thyroid extract. At first sight such treatment may seem somewhat superfluous, but experience has shown, and to that of others I can add my own, that this method of treatment frequently leads to a notable diminution in the size of the goitre. Adenomata, cystic adenomata, and other new growths are not influenced by the treatment though the parenchymatous enlargement which often accompanies them may be diminished. In the treatment of goitre it is advisable to begin with 10 minims of liquor thyroidei each night. In the course of a few days if the pulse is not accelerated beyond 90 or 100 this dose may be given twice and at the end of a week thrice daily. If well borne the dose may be still further increased. The treatment should be continued for three or four weeks to give it a fair trial and longer if the goitre continues to decrease in size. In several cases in which the general enlargement of the gland has been sufficient to cause dyspnœa by compressing the trachea, so that an operation had to be considered, the gland has been reduced to two-thirds or even one-half of its former size and all the symptoms of pressure removed and with them the necessity for an operation. The beneficial effects of this treatment may be due to the iodine which is present in combination with a proteid in thyroid extract, for iodine has long been used with good results in the treatment of goitr We have seen that the healthy thyroid of the monkey showe some signs of diminution in size under the same treatme and I would suggest that the decrease in size in goitre may due to part of the enlarged gland passing into a resting co dition and consequent diminution in size if there is not actual disuse atrophy as a result of the treatment.

EXOPHTHALMIC GOITRE.

Exophthalmic goitre, with its many varying phases, is disease of great interest from several points of view. Th various clinical types in which it comes before us ar the great difficulties in treatment which it often presen render a true solution of the problem of its patholog of the greatest importance. The circulatory and nervou systems have each in turn been considered to be fault, and it is only recently that attention has bee drawn to the important part which is played by th thyroid gland in the pathology of the disease. Th central and sympathetic nervous systems have been carefull examined in a considerable number of cases; in some the have been found quite normal, in others various lesions hav been described, but these have varied in different cases an on the whole appear to be rather secondary than primary i origin. I shall not describe the various lesions which hav been found, as I have already elsewhere[7] discussed thei relative importance. The lesions found in the thyroid glan are far more constant in character than any yet described i the nervous system and it is the most obviously disease organ to be found in a case of exophthalmic goitre. I nearly all cases of exophthalmic goitre there is a palpabl enlargement of the thyroid gland. On looking through m case-books I find notes on 70 cases of exophthalmic goitr which I have seen during the last nine years in the North o England where the disease is not uncommon. Of thes cases eight were men and 62 were women All th eight men had enlargement of the thyroid; of the 62 wome all except three had enlarged thyroid glands. Taking bot sexes together we find that only 4 3 per cent. of these case had no goitre. It has been shown by Maude that in som cases enlargement of the gland may be present at one tim and not at another, so that even in those three cases whic were only seen a few times there may have been som enlargement at some other time during the course of th disease which had escaped observation. In any case, in 9 per cent. of my cases there was either enlargement of th gland at the time when the case was seen or there was distinct history of enlargement at an earlier stage.

The enlargement of the thyroid gland in exophthalmi goitre is as a rule uniform. In cases of long duration it may be irregular in shape and consistence owing to the develop ment of fibrosis leading to the formation of irregular strand and masses of hard fibrous tissue in some parts of the gland The veins on the surface are large and their walls are thin In well-developed cases the goitre is very vascular and the arteries are dilated and tortuous, indicating that there was liberal supply of blood during life. On section the cu surface presents a uniform appearance; it is lighter in colou and exudes less colloid than a normal gland. The microscopical appearances have been very clearly described by Greenfield,[8] Stewart and Gibson,[9] Edmunds,[10] and Abram.[11] The general appearance is that of a gland in a state of great secretory activity and has been aptly compared by Greenfield to that of the mammary gland during lactation. The number of alveoli is not only increased by the total increase in size of the gland but in equal areas more secreting tissue is seen than in the normal gland. In many places the lumen of the alveolus is irregular in outline owing to folds of the alveolar wall covered with epithelium projecting into it, so that even when the gland is but slightly enlarged there is a marked increase in the amount of the secretory epithelium. The lumen of the alveolus is in consequence diminished in size in some cases to a considerable extent. The actively secreting part of the gland is thus increased at the expense of the storage room which is so ample in the normal gland. The epithelium which lines the alveoli and covers these folds is changed in type, for the cells instead of being flat or cubical are tall and columnar. There is less secretion to be seen lying in the and a free exit is provided for any secretion which may find its way into the wound, such symptoms will in all probability but seldom arise.

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[7] Twentieth Century Practice of Medicine, vol iv.
[8] THE LANCET, Dec. 16th and 23rd, 1893.
[9] Edinburgh Hospital Reports, vol. i.
[10] Transactions of the Pathological Society of London, 1895.
[11] THE LANCET, Nov. 16th, 1895.

It is now well known that thyroid extract has a bad effect on patients with exophthalmic goitre. Under its influence the pulse becomes more frequent and the other symptoms are increased. In some instances where other treatment had been followed by marked improvement the administration of thyroid extract has been followed by a relapse into the former condition. In my opinion it should never be given in exophthalmic goitre as it is *only adding fuel to the fire.* The results of surgical treatment of exophthalmic goitre undertaken with the object of reducing the amount of secreting tissue by removal of one lobe, or of inducing atrophy by ligature of some of the arteries which supply the gland, are of great interest. Unfortunately, the operation itself though sound in principle is at present by no means free from risk. The steady improvement, however, which has resulted in many cases in which it has been successfully performed affords still further evidence that the symptoms of exophthalmic goitre are due to the over-activity of the thyroid gland.

It is a fact of considerable interest that along with the enlargement of the thyroid gland in exophthalmic goitre other ductless glands may be increased in size. The thymus gland is very often enlarged; in all the cases recently examined at St. Thomas's Hospital Dr. H. Mackenzie[18] has found the thymus persistent and enlarged, the microscopical structure being normal. Exophthalmic goitre and acromegaly are sometimes found to occur together. I have recorded two examples of this and collected records of three others.[19] In acromegaly the pituitary gland is enlarged and the enlargement seems to be analogous to that of the thyroid in exophthalmic goitre, so that we have the remarkable fact that all these three ductless glands may be simultaneously enlarged. We know no explanation of this but it suggests that possibly some common factor may be the cause of the enlargement. That some association exists between the thyroid and pituitary glands is further shown by the enlargement which takes place in the latter when the former is removed or disabled by disease.

These facts all indicate that in the treatment of exophthalmic goitre attention should be directed to the thyroid gland. Time will not permit me to discuss the question of operative treatment, but there can be little doubt that removal of part of the enlarged gland is a rational method of treatment and when the risks of the operation are diminished it should be more frequently employed in severe cases in which medical treatment has failed to do good. Of medical treatment much has been written. In my own cases inunction of red iodide of mercury ointment over the goitre and belladonna given in large doses internally so as to check the hypersecretion of the gland have been of most service. If the palpitation is excessive convallaria has proved more useful than any other member of the same group of drugs. Where there has been great nervousness the bromides have done good. In only one case have I seen decidedly good effects from taking thymus. In this case three tablets of dried thymus were taken each day for nine months, for the last six and a half of which the red iodide of mercury was used as well. As a result of this treatment the pulse-rate, which varied from 132 to 143, fell to 84; the thyroid gland, which had been considerably enlarged, returned to its normal size; the tremor became much less; and the exophthalmos was diminished.

In conclusion, Mr. President and gentlemen, allow me to thank you for the kind help which you have given me by your attention in my endeavour to place before you some of the facts which help to explain the function of the thyroid gland and the practical uses to which such knowledge can be put in the treatment of disease, and I trust that the wishes of the founder of this lectureship have thus been carried out in the spirit, if not in the actual letter of his bequest.

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[18] Allbutt's System of Medicine, vol. iv., p. 503.
[19] Edinburgh Medical Journal, 1897, p. 170.

THE BRISTOL MEDICAL MISSION.—The annual meeting of the Bristol Medical Missionary Society was held on March 9th under the presidency of the High Sheriff (Mr. O. Wills). The honorary secretary reported that during 1898 7536 out-patients had been treated and 1880 patients had been visited at their homes. The total income for the year was £732 and the expenditure amounted to £695.

ABSTRACTS OF

Three Lectures

ON

THE JOINTS OF MAMMALS CONTRASTED WITH THOSE OF MAN.[1]

Delivered before the Royal College of Surgeons of England on March 6th, 8th, and 10th, 1899,

BY F. G. PARSONS, F.R.C.S. ENG.,

HUNTERIAN PROFESSOR.

LECTURE I.

Delivered on March 6th, 1899.

IN this lecture the temporo-maxillary and shoulder-joints as well as the articulations in connexion with the clavicle were treated. In the temporo-maxillary joint special stress was laid on the fact that in man the external lateral ligament of the jaw ran downward and backward and was attached below to the posterior part of the outer side of the neck of the condyle. The occasional appearance of a post-glenoid process in man's skull was pointed out as well as the fact that the long axes of the condyles ran backward and inward. In the lower Primates it was shown that the glenoid cavity became more and more flattened by the non-appearance of the eminentia articularis or pre-glenoid process, while the post-glenoid process was *constantly present* and was situated *only* at the outer part of the back of the cavity in the catarrhine monkeys. In the lemurs, on the other hand, it was directly behind the centre of the condyle and in these animals the long axis of the condyle was quite transverse.

The suggestion was made that *the obliquity of the transverse axis of the condyle in man was due to the fact that in the higher Primates the post-glenoid process checked the backward movement of only the outer part of the condyle.* The backward direction of the external lateral ligament was found to be present in monkeys as in man, and it was shown that when the mouth was opened this ligament became tense and checked the backward movement of the neck of the condyle; the jaw was then converted from a hinge into a lever of the first class and the condyle moved forward on to the eminentia articularis without the necessity for any action of the external pterygoid muscle. The various mechanisms of the jaw in the different orders of the Mammalia were then dealt with in detail, and among other things it was shown that the inter-articular meniscus was present in all mammals until the Edentata were reached in descending the scale. In this order the structure was shown to be absent in the armadillo as it was also in the Tasmanian devil (Dasyurus) among the Marsupialia. In the Monotremata it was also wanting. This absence of the meniscus among lower mammals the lecturer regarded as telling against the likelihood of its representing the quadrato-jugal bone of lower vertebrates and he inclined to the belief that it was simply a pad adapting the joint to various different kinds of movement. In reviewing the clavicular articulations it was pointed out that when a clavicle was present it was connected with the dorsal side of the presternum and that in a generalised mammal there was usually a rod of cartilage which connected the two bones. In this rod an ossified nodule was frequently found and this the lecturer regarded as the homologue of the sternal epiphysis of the clavicle of the Primates. Synovial joints might be developed between the cartilaginous rod and the sternum and in some instances between it and the bony clavicle. The inter-articular fibro-cartilage of man was shown to be a constant structure in the Primates and the possibility of this being a mere fibrous ingrowth from surrounding tissues to adapt the joint to various kinds of movement was discussed. The coraco-clavicular ligament, it was stated, was single below the higher Primates and in some animals—e.g., Dasypus and Bradypus—was very long. The acromio-clavicular joint existed only when the clavicle was fully ossified, otherwise the bony ends were connected by fibrous tissue which in the case of the three toed sloth (Bradypus) had entirely disappeared

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[1] These lectures will be published in full in the Journal of Anatomy

In the shoulder the coraco-humeral ligament was described as being peculiar to the Primates and the lecturer's experience made him think that it had little or no morphological connexion with the distal end of the pectoralis minor The three gleno humeral ligaments of man were called attention to and it was stated that the inferior one was unsatisfactory and difficult to recognise The tendon of the biceps in man was free in the joint cavity, but in every other mammal in which it was intracapsular a reflection of synovial membrane passed from its ventral border to the ventral part of the capsule The lecturer stated his opinion that the upper of the three gleno humeral ligaments in man, lying as it did anterior (ventral) to the tendon of the biceps, was the remains of the reflection which in other mammals connected the biceps with the capsule The middle gleno humeral ligament of man was shown to be more or less persistent all through the mammalian class, sometimes, as in Rodentia, being very prominent and sometimes indistinguishable but always when present running from the attachment of the biceps tendon to the lower part of the lesser tuberosity of the humerus A ligament corresponding to it in position was shown in the shoulder joint of the Monotremata and it was pointed out that this ligament was of great functional importance in the mechanism of the joint of those animals

LECTURE II

Delivered on March 5th 1899

IN this lecture the elbow, wrist, and hip joints were dealt with In the elbow the presence of an oblique ligament passing from the internal condyle to the radius just behind the tubercle was noticed and the name of "oblique radio-humeral ligament" was suggested for it It lay superficial to the capsule and checked pronation It was frequently found among the Primates, Carnivora, and Rodentia A distinction was drawn between the elbow used only for support and that used for prehension The ungulate elbow was taken as a type of the former and it was noticed that the radius lay entirely in front of the ulna, that its head was transversely elongated, that there was no orbicular ligament, and that the lateral ligaments were both attached to the radius The human elbow was taken as a type of the form adapted to prehension and drawn attention to, and it was shown that in the lower Primates these were less well seen and that in other mammals they were not present at all The lecturer had been unable to find any evidence supporting the theory that the ilio femoral ligament represented a degenerated scansorius or gluteus quartus muscle, he regarded the ligament in question as a thickening of the capsule due to the gradual assumption of the erect posture The presence of the ligamentum teres was next drawn attention to and it was shown to be absent in the orang, many Insectivora, the Pinnipede Carnivora, a few of the Ungulata, some of the Edentata, and both examples of the Monotremata The lecturer expressed his ignorance of the factors which determine the presence or absence of this structure, but stated that it did not necessarily vary with the presence or absence of the gleno humeral ligament of the shoulder In the Cape hyrax and the armadillo the ligament was shown to be continuous with the pubic portion of the capsule instead of being free in the joint, while in some animals, such as the horse, goat, hyrax, and Cape jumping hare, it was continuous through the cotyloid notch with extra capsular structures—a fact tending to confirm Sutton's view that the ligamentum teres was the remnant of an extra capsular muscle

LECTURE III

Delivered on March 1[illegible]th 1899

IN this lecture the knee and ankle joints were described. In dealing with the lateral ligaments of the knee it was shown that in almost all mammals the fibres of the external lateral ligament showed a twisting in such a way that those attached posteriorly to the femur became superficial as they descended and finally were the most anterior at their attachment to the fibula In some animals a twist in the opposite direction was evident in the internal lateral ligament The low attachment of the internal lateral ligament was shown to favour rotation and in the bat's knee, which was a perfect hinge, it was pointed out that the lateral ligaments were attached just below the joint cavity In the armadillo, which had very free rotation of the knee, the internal lateral ligament was attached to the middle of the shaft of the tibia The oblique ligament of Winslow was stated to be practically a human characteristic Five varieties of the ligamentum mucosum were demonstrated (1) in which it was quite unconnected with the femur as in the lemur, (2) in which it was feebly connected with the femur, as in man, (3) in which it formed an antero posterior partition between the two condylo tibial articulations, as in many monkeys and the otter, (4) in which it completely subdivided the knee into three joints, two condylo-tibial and a trochleo patellar, as in the three-toed sloth (Bradypus) and the Ornithorhynchus, and (5) in which it subdivided the knee into two unequal joints, the condylo tibial of one side being shut off from the rest as in not at all improbable that the kidney has an internal secretion, though absolute proof is not yet forthcoming. In some few cases in which I have used the renal extracts they have been followed by an increase in the amount of urine and an improvement in the general condition. The use of renal substance extracts is still in a purely experimental stage. Judging by the analogy of myxœdema, it would be in the cases of chronic renal cachexia only that we should look for striking results, and this requires early and correct diagnosis. In acute uræmia there is so little time to act that recourse must be had to other and more active measures.

The task set before me is finished. My choice of granular kidney was inspired by the hope that what had interested me might prove of interest also to others. I trust I may not have misjudged. I have not hesitated to express my own opinions, even at the risk of appearing egotistic, though I trust with sufficient modesty to escape the charge of dogmatism. On a subject so full of difficult and contentious questions I cannot expect that my views will commend themselves to all. Yet defined opinions challenge criticism and criticism tends to advance knowledge.

PARALDEHYDE AS A RESPIRATORY SEDATIVE.

BY WILLIAM MACKIE, M.A., M.D. ABERD.

SINCE I first suggested the use of paraldehyde in spasmodic asthma,[1] now over six years ago, I have had frequent occasion to administer the drug both in purely functional respiratory troubles and in dyspnœic conditions arising from various causes, in many cases even where complicated with grave organic lesions. In no case where I have used it have I ever had occasion for regret, but, on the other hand, have always been pleased, and often more than pleased, with the result. I am glad to find that Dr. Macgregor[2] has found it equally satisfactory in the cases in which he has used it. I may say that the suggestion of its use in asthma has not been altogether a dead letter. Dr. Hearder,[3] of West Riding Asylum, Wakefield, in 30 cases of asthma, many of which were complicated with severe organic disease, found that it came quite up to the level of expectation and I have on several occasions had private inquiries from medical men as to the propriety of prescribing it in particular cases. To those I have uniformly replied that paraldehyde is a safe drug and may be freely given under almost all circumstances. So assured of its value in dyspnœic conditions generally have I become that I have long ceased to take notes of particular cases, but the two following, both of which were complicated with grave organic lesions, come fairly within the range of memory.

CASE 1.—A woman, aged 34 years, with chronic kidney disease (large white) for some years in the last stages suffered from gradually increasing œdema of the lungs with corresponding dyspnœa, restlessness, and eventually sleeplessness. After failure of the admissible hypnotics (sulphonal being one) and sedatives in what was considered legitimate doses, one drachm of paraldehyde given diluted in water repeatedly gave three or four hours' sleep without perceptibly affecting the other symptoms but to all appearance with much temporary relief.

CASE 2.—A spare but plucky woman, aged 50 years, had from the month of June of last year onwards much dyspnœa with bronchial spasm and some expectoration. She had had to my knowledge for at least six years valvular disease of the heart, both aortic and mitral, but this was the first appearance of anything like marked dyspnœa. The case was in the circumstances one of some anxiety and a consultant who saw the case at an early stage "ventured to hope" that the attack might prove a temporary one, but neither of us had really much hope of eventual recovery. Many drugs were tried with little result. At last the following formula was hit on: one drachm of tincture of strophanthus; eight minims of solution of nitro-glycerine; 36 minims of solution of strychnia; one and a half drachms of paraldehyde; and one and a half ounces of infusion of calumba. One drachm of the mixture in water to be taken occasionally but not oftener than once in six hours. This from the first gave marked relief. During an illness of six months the woman clung tenaciously to the "little bottle" and from time to time had the mixture repeated. For the last two months she has been able to be about again and for that time has required nothing. It might be doubted whether the paraldehyde in the above mixture was to be credited with the result, but from close observation of the case I am strongly of opinion that it was the paraldehyde which gave the relief.

As with most drugs of the kind I have found paraldehyde when frequently exhibited in the same case eventually fail to produce results in ordinary doses, but I am decidedly of opinion that this tendency is much less marked in the case of paraldehyde than of many other drugs. In some cases, however, no such tendency has been observed after prolonged use. I have never seen fainting on its exhibition, as occurred in some of Dr. Macgregor's cases, but I have usually prescribed it mixed with equal parts of syrup of orange peel or syrup of hemidesmus and always ordered it to be given freely diluted with water. Where tinctures are present, as noticed by Dr. Hearder, it becomes fairly miscible in water with other drugs.

Elgin, N.B.

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[1] Brit. Med. Jour., vol. i., 1893, p. 65.

[2] THE LANCET, Feb. 11th, 1899

[3] Brit. Med. Jour., vol. i., 1896, p. 725.

FURTHER STATEMENT AS TO RESULTS OBTAINED BY OPERATION FOR CANCER OF THE BREAST.

BY W. WATSON CHEYNE, M.B. EDIN., F.R.C.S. ENG., F.R.S.,
PROFESSOR OF SURGERY IN KING'S COLLEGE; SURGEON TO KING'S COLLEGE HOSPITAL, ETC.

THREE years have now elapsed since I published in the Lettsomian Lectures and subsequently in THE LANCET[1] the results which I had up to that time obtained by extensive operation in cases of cancer of the breast, the operations being carried out in accordance with the pathological and anatomical facts contained in the researches of Heidenhain and Stiles. At that time I was able to mention 61 cases which had been operated upon at periods varying from one month to six years; in 21 of these from three to six years had elapsed since the date of the operation. As three years and more have now elapsed (from three to nine years) since these 61 cases were operated upon it seems to me desirable to state as far as I can what is their present condition. I need not reprint the list of cases here, the numbers which I give are those under which the cases are described in the former paper in THE LANCET.

In the first place, let us take those cases in which at the time of my last publication three years or more had elapsed since the date of the operation. These were 21 in number, and it will be remembered that at that time recurrence had taken place in nine, while on the other hand 12, or 57 per cent., had remained well for over three years. Of the latter, 11 were at that time alive and well and one had died from acute bronchitis, without any trace of recurrence of the disease, three years and five months after the date of the operation. At the present time nine of these patients are, I know, still alive and well. One I knew of up till about a year ago, when she was also well, but she has left her former address and I have not yet been able to trace her. One only has died, and the cause of death is stated to have been hæmorrhage from cancer of the intestine; apparently there was no recurrence in the region of the breast. The following are the cases, giving the time which has elapsed since the operation.

No. 1 (*of former report*). Alive and well; nine years. 4. Reported to have died from cancer of the intestine about six years after the operation. 5. Alive and well; eight years and three months. 6. Alive and well up to a year ago (seven years); since lost sight of. 11. Alive and well; seven years and three months. 13. Alive and well; seven years and two months. 14. Alive and well; seven years and one month. 15. Alive and well; seven years and one month. 16. Alive and well; six years and 10 months.

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[1] THE LANCET, Feb. 15th and 22nd and March 14th, 1896.

19 Alive and well, six years and one month 21 Alive and well, six years

The results thus remain very much the same as before In only one case has the disease reappeared in those who were well three years ago and from what I hear it is quite possible that this may have been a fresh cancer altogether and not a recurrence of the one removed from the breast I may add that quite recently a patient on whom I had operated in October, 1889, came to the hospital for another trouble altogether and was quite well as far as any sign of cancer was concerned, and still remains so, and if this case be added to the above list my percentage of successes remains practically the same as in my former paper

Let us take next the cases in which at the time of my last publication three years had not yet elapsed since the operation These were 40 in number, and at that time 10 had shown signs of fresh disease (it may be remembered that one of these was really an inoperable case and that in one I only assumed from what I was told that there was a recurrence, further, apart from the inoperable case, several of them were very bad cases to start with) one died from the operation two had been lost sight of and 27 had not then had any recurrence Let us trace the fate of these 27 cases

No 26 Cannot trace her 27 Alive and well, five years and three months 30 Alive and well, four years and 11 months 31 Alive and well, four years and 10 months 32 Alive and well, four years and 10 months 35 Alive and well four years and eight months 37 Died from internal recurrence about two and a half years after the operation 39 Alive and well, four years and four months 40 Alive and well four years and three months 42 Alive and well, three years and nine months 43 Alive and well, three years and seven months 44 Alive and well, three years and seven months 45 Alive and well, three years and seven months 46 Alive and well, three years and seven months 47 Alive and well, three years and six months (a very bad case) 48 Died from recurrence 49 Died from recurrence 50 Alive and well, three years and six months 51 Died from influenza and acute pneumonia two and a half years after the operation No sign of external or internal disease 53 Died from recurrence internally about 18 months after operation 54 Alive and well, three years and four months 55 Alive and well, three years and four months 57 Died from recurrence 58 Died, recurrence (?) 59 Alive and well, three years and two months 60 Died 18 months after the operation, recurrence in liver (a very bad case) 61 Alive and well, three years and one month

Thus of the 27 patients who had had no recurrence at the time of my last publication, 18 are still alive and well and one died without recurrence In other words of the 37 patients who lived after the operation and the fate of whom can be traced 19, or over 50 per cent, remained free from recurrence 16 certainly had recurrence one probably died from recurrence and in one I do not know the result This gives us a total in the 61 cases of 30 patients who remained free from recurrence, 29 of these having passed the three years limit, one died from the operation and three have been lost sight of The results therefore in cases where they are ascertainable are about 51 per cent of successes—i e, of patients remaining alive and well for over three years

As regards the value of the three years limit—or indeed, of any time limit—it is interesting to note that of the 11 cases alive and well at the time of the last report (three years or more after the operation) only one has shown signs of fresh disease and it is doubtful whether that was a recurrence or a new development Further of the 20 patients alive and well at the time of the last report one year or more (from one year to six years) after the operation 17 still remain well This shows the great chance of freedom which patients alive and well a year after the operation have gained by the thorough procedure which I advocate

It may be of interest if I add a further list of the patients operated upon up to the end of 1897 which brings the totals up to 99 I need not give the more recent cases as up to a year the chances of recurrence still remain considerable while after a year they are comparatively slight as has just been shown

I may say that the statements as to prognosis in this list represent the impression left on my mind at the conclusion of the operation and which I put down at the time It refers essentially to the state of matters found as regards the breast glands &c, and was hardly influenced by other considerations such as the age of the patient, the duration of the disease, &c

The result of these 38 fresh cases in which from one to three years have elapsed since the operation is the following,—26 patients remained well without recurrence, one refuses to say how she is but appears well, in one the result is unknown, one died suddenly about a fortnight after the operation, seven died from recurrence, one (in whom there had been recurrence) has probably died, and one (in whom also there had been slight recurrence) has been operated upon and appears well The total is 99 cases in which from one to nine years have elapsed since the operation and of these 56 certainly have as yet had no recurrence

It will be quite evident from the nature of the cases described that there has been no selection of cases from the point of view of obtaining good results by operation A number of the patients operated upon were, to my mind, cases in which it was very doubtful whether an operation should be performed or not and I could easily by selection of cases have obtained a very much higher percentage of successes I had only to refuse to operate on the cases in which the prognosis seemed to me to be bad as indicated in the above list and the result would have been over 80 per cent of successes But such selection, however it might help to establish the operation, would not have been fair to the patients and in several instances where I have thought that early recurrence must take place I have been agreeably surprised to find that the patients remain well As a matter of fact I have only refused to operate upon patients in whom it was evident that removal of the disease was quite impossible either on account (1) of the presence of internal deposits, or (2) of deposits externally in situations which were irremoveable (as, for example, in the ribs, in glands behind the sterno-mastoid, &c) or (3) of extreme weakness Short of that I think that every patient should have the chance of operation even although the local disease seems to be so extensive that the probability of the existence of internal deposits is very great and, as I have just said, I have been agreeably surprised in several instances to find that the patient remains well

I need not again describe in detail the operation which I perform as I have already done so on more than one occasion, but there are some points with regard to it on which I should like to lay stress

Exploratory incisions—One not unfrequently meets with cases in which, either on account of the early period of the disease and the consequent small [illegible]ze of the growth or on account of the great size of the b[illegible]st the deep-seated position of the growth and the diffic[illegible] in manipulating it or, again, on account of the very diffu[illegible] and extensive nature of the growth there is considerable doubt as to the diagnosis Under such circumstances an exploratory operation is of course proposed, and considering the great importance of early operation in cancer an exploratory operation should be at once proceeded with instead of waiting to see what the effect of external or internal remedies would be The operation however, should not be an exploratory *incision* into the swelling If an incision is made into a cancer the cancer cells escape from the alveoli in which they are present soil the knife the fingers of the operator, the skin of the patient and the surroundings generally, and the result may very possibly be that the wound made afterwards with the view of removing the breast and glands may be infected by cancer cells which have escaped from the incision This is not by any means a purely theoretical danger I have already referred to cases of auto infection in my Lettsomian Lectures and I have since on more than one occasion had similar experiences more especially where glands have burst during removal and where the result has been a diffuse cancerous infection of the wound in spite of the greatest care having been taken to clear out all the material which had escaped from the gland Hence, in the case of an exploratory operation the suspected swelling should be *excised along with an area of apparently healthy tissue around* and it should only be cut into after its removal from the body and from the vicinity of the operation It is best if it can be managed, that the incision into the swelling should be made by someone who is not directly associated with the operation afterwards or if it be made by the surgeon that he should not touch it with his fingers and should afterwards discard the instruments which have been employed Should the swelling

SECOND SERIES OF CASES OF CANCER OF THE FEMALE BREAST, 1896 and 1897 (VERIFIED BY MICROSCOPICAL EXAMINATION), IN WHICH THE FIRST OPERATION WAS PERFORMED BY MR. WATSON CHEYNE.

No.	Age.	Date of operation.	Nature of case.	Result.
62	37	11/3/96	Extensive scirrhus of right breast below and internal to nipple. Adherent to skin and muscle. Two other nodules in breast. Numerous glands in axilla and also in posterior triangle of the neck. Swelling (fibro-adenoma) in left breast. Noticed for three years. Very bad prognosis.	Recurred locally and generally within a year. Inoperable.
63	40	8/4/96	Scirrhus behind the left nipple of the size of a two-shilling piece; adherent to skin but not to the deeper parts. Several glands of moderate size in the axilla. Noticed for five months. Fair prognosis.	Alive and well; two years and 10 months (a cyst was removed from the right breast in August, 1898, but there was no sign of cancer anywhere).
64	42	15/4/96	Seen six weeks before with large scirrhus in right breast, but as the patient was just going to be confined the operation was deferred. On returning the swelling had increased in size, there were large glands in the axilla, and there was a suspicion of a deposit in the liver. Disease noticed for ten weeks. Very bad prognosis.	Died from cancer of the liver six months later.
65	51	29/4/96	Scirrhus of left breast about the centre, involving skin and muscle. A good many glands. Noticed for several months. Bad prognosis.	Alive and well; two years and nine months.
66	43	6/5/96	Pretty large scirrhus behind nipple. Glands only slightly affected. Noticed four months. Good prognosis.	Alive and well; two years and nine months.
67	61	2/6/96	Scirrhus at outer part of breast. Some small glands. First noticed two months ago. Good prognosis.	Alive and well; two years and eight months.
68	42	3/6/96	Very diffuse thickening of right breast occurring very rapidly. I was uncertain of the diagnosis and therefore excised a portion of the thickened tissue. Even with the naked eye I was still not sure of the diagnosis as between tubercle and cancer. Microscopical examination showed a rapidly-growing cancer. The breast and glands were therefore removed some days after the exploration. *Very bad case.*	Recurred in sternum and internally in the pleura and mediastinum. Died one year and two months after the operation.
69	71	10/6/96	Small scirrhus at the outer side of left breast. Several small glands. Noticed two months. Good prognosis.	Continued sickness and retching after the operation for several days and a good deal of flatulent distension. No rise of temperature. Stitches removed on June 19th. Patient allowed to get up on a couch on June 20th. Shortly after getting up became livid and collapsed; recovered when put back to bed. At 8.30 P.M. on the same day was seized with severe dyspnœa and died in two minutes. On post-mortem examination there was a clot in the right ventricle extending into the pulmonary artery but not adherent. There was no sign of pulmonary embolism. There was old-standing tuberculous disease of the lungs. There were healed cavities in the lungs and adhesions between the lungs and the chest wall. The colon was much distended. There was extensive diffuse thickening of the wall of the sigmoid flexure and rectum, so that the lumen of the bowel was in parts very narrow. There was no sign of cancer internally.
70	49	10/6/96	Scirrhus above the right nipple of the size of a Brazil nut. Puckering of skin. Numerous small glands. Noticed 18 months. Fair prognosis.	Alive and well; two years and seven and a half months.
71	67	23/6/96	Small scirrhus in upper and outer quadrant of left breast. Good many glands in axilla. Noticed a month. Good prognosis.	Alive and well; two years and seven months.
72	55	23/6/96	Large cancerous mass in centre of right breast, adherent to the skin. A good many moderate-sized glands. Noticed for six months. Bad prognosis.	Alive and well; two years and seven months.
73	60	1/7/96	Small scirrhus at outer side of right breast. A good many small glands. Noticed five weeks. Good prognosis.	Alive and well; two years and seven months.
74	49	19/9/96	Scirrhus at outer part of left breast of the size of a Brazil nut. Several small glands. Only noticed a fortnight ago. Good prognosis.	Alive and well; two years and four and a half months.
75	40	2/10/96	Extensive diffuse scirrhus of left breast with large glands in axilla. Only noticed recently. Very bad prognosis.	Recurrence externally and internally; died in about nine months.
76	49	9/11/96	Small scirrhus to inner side of the right nipple. Two or three glands. Noticed for six months. Good prognosis.	Alive and well; two years and three months.
77	40	17/11/96	Very extensive diffuse scirrhus of the breast. Axilla full of glands and some in the posterior triangle of the neck. Very bad prognosis.	Recurrence in abdomen; died four months later.
78	53	15/12/96	Swelling in left breast just above nipple of the size of half-a-crown. A few small, hard glands in axilla. Noticed for two years. Doubtful prognosis.	Alive and well; two years and one and a half months.
79	43	16/12/96	Diffuse cancer in right breast. Large glands in axilla. Arm painful and swollen. Noticed 18 months. Bad prognosis.	Small nodule noticed in region of scar last November. Removed. Patient looks well and has no further sign of recurrence.
80	53	16/12/96	Large tumour in left breast with large glands. Noticed for six weeks. Bad prognosis.	Died from recurrence internally (lungs, &c.) one year and nine months later.
81	39	16/12/96	Large scirrhus involving upper and inner segment of right breast, adherent to muscle. Large glands in axilla. Noticed for 10 months. Bad prognosis.	Alive and well two years and one month.
82	58	5/1/97	Large scirrhus of left breast at upper part. Glandular affection only slight. Doubtful prognosis.	Alive and well; two years and one month.
83	35	27/1/97	Largish tumour towards centre of breast. Several small glands. Bloody discharge from nipple noticed for a year and swelling for several months. Doubtful prognosis.	Alive and well; two years.
84	45	4/2/97	Diffuse scirrhus of left breast. Several nodules in the breast. Axilla full of glands. Glands also removed from the posterior triangle of the neck, but apparently not diseased. Very bad prognosis.	Alive and well; two years.
85	38	10/[illegible]/97	Scirrhus at lower part of left breast ulcerated, glands moderate in size and few. Noticed some months. Doubtful prognosis.	Alive and well; one year and 10½ months.

SECOND SERIES OF CASES OF CANCER OF THE FEMALE BREAST, 1896 AND 1897 (VERIFIED BY MICROSCOPICAL EXAMINATION), IN WHICH THE FIRST OPERATION WAS PERFORMED BY MR. WATSON CHEYNE—(*Continued*).

No.	Age.	Date of operation.	Nature of case.	Result.
86	39	11/3/97	Very extensive diffuse scirrhus of left breast. Glands only slightly affected. Bad prognosis.	Has become a "Christian scientist" and "does not search for disease." Has seen no medical man since the operation. Will not say anything as to her health but leads an active life. Looks well and there is presumably not much the matter with her.
87	40	15/3/97	Small scirrhus in left breast. Several small glands in axilla. Noticed for a few weeks. Good prognosis.	Alive and well; one year and 10½ months.
88	65	16/3/97	Small scirrhus in left breast and small glands. Noticed a week ago. Good prognosis.	Alive and well; one year and 10½ months.
89	43	14/4/97	Scirrhus of the size of a walnut in lower and inner part of left breast, adherent to pectoral. Small glands in axilla. Noticed four months. Fair prognosis	Alive and well; one year and nine and a half months.
90	51	27/6/97	Large mass in left breast and large glands in axilla. Noticed six months. Bad prognosis.	Died from cancer in the liver about 11 months later.
91	61	1/7/97	Small scirrhus in upper part of right breast, adherent to muscle. Glands small. Noticed six months. Good prognosis.	Alive and well; one year and seven months.
92	50	3/7/97	Tumour of the size of an egg in upper part of right breast, adherent to skin. Glands not much affected. Noticed two years. Doubtful prognosis.	Has left former address and cannot trace her.
93	58	3/7/97 10/7/97	Scirrhus in both breasts; on the left side large ulcerated, and adherent to the muscle; on the right side a small mass. Glands in both axillæ, largest on the right side. The left breast noticed for 10 months. The breasts removed at a week's interval. Bad prognosis.	Alive and well, one year and seven months.
94	47	9/7/97	Small tumour in breast and small glands. Good prognosis.	Alive and well, one year and seven months.
95	42	14/7/97	Fairly large scirrhus in upper part of left breast. Glands noticed for five months. Good prognosis.	Died from recurrence in mediastinum and pleura 14 months later. No external recurrence. Post-mortem examination showed numerous masses of cancer in both lungs varying in size from a pea to a two-shilling piece. Left lobe of the liver also diseased. Double aortic disease.
96	64	13/10/97	Largish mass in centre of breast. A good many glands. Noticed five months. Doubtful prognosis.	Alive and well; one year and three and a half months.
97	45	13/11/97	Diffuse cancer at outer part of left breast and a smaller nodule towards the inner side. Many glands, but small. Noticed nine months. Good prognosis.	Alive and well, one year and two and a half months.
98	40	12/11/97	Small scirrhus of right breast and a few glands. Noticed two months. Good prognosis.	Alive and well; one year and two and a half months
99	60	24/12/97	Small scirrhus behind nipple. Large glands in axilla. Noticed six months. Doubtful prognosis.	Alive and well; 13 months.

turn out to be a cyst or a patch of mastitis the excision which has been carried out is the best possible procedure and, on the other hand, should it be a cancer there is less risk of infecting the subsequent wound by excision than by incision. It is of course possible that, even where the tumour is excised as described, lymphatic vessels containing cancer cells may be cut across, but the cells in these lymphatic vessels are few and as a rule more adherent than in the original growth, and they are therefore less likely to be spread over the surface of the wound. Nevertheless, it is well in all cases after exploratory operations to take special precautions against the subsequent infection of the wound and when a tumour has been removed and the bleeding has been stopped a small sponge should be stuffed into the wound which is then closely stitched up. The skin, the hands of both the operator and the assistant and the skin of the patient should again be thoroughly disinfected as at first, and the instruments used should be laid aside and not again employed for an operation till they have been thoroughly boiled.

Removal of skin.—One of the most important parts of the operation is the free removal of skin. This should in the first place be carried out quite independently of the question of how the wound is to be closed afterwards, otherwise one is very apt not to take enough skin away. All the skin over the breast proper should be taken away, however small the growth, and where the tumour lies to one side of the breast special incisions must be made around it in order to get well wide of it. In the accompanying figures I have represented some of the incisions which should be employed in cases of tumours situated in different parts of the breast (see Figs. 1 to 5). In these figures the cross indicates the position of the cancer and the dotted lines the lines of incision in each case. The figures speak for themselves but I may note that they are drawings of the virgin breast and that in a large pendulous mamma the lines would be much further apart. The best way of determining the upper line in the latter case is to raise the breast and see where the fulness begins above and make the line of incision about an inch above that unless where the cancer lies towards the upper part when the incision must be in the form shown in Fig. 4.

I believe that in the free removal of the skin lies one of the chief reasons why I have had so seldom local recurrence after my operations. And, further, not only should the skin be freely removed in the manner represented, but the skin incisions when made should not go straight down to the muscle. After the skin incisions have been mapped out, the skin and just sufficient fat to enable it to retain its vitality should be dissected up and the muscular fibres should not be exposed till just below the clavicle above, beyond the middle line in front, over the origin of the abdominal muscles below, and over the edge of the latissimus dorsi muscle behind. The fat with the outlying lobules of the mamma and the lymphatics and vessels contained in it are thus separated from the skin and are then removed along with the fascia or muscle beneath. Another advantage of this free undermining of the skin which is necessary in order to remove the outlying lobules of the breast is that one can generally succeed, possibly with a little extra undermining in places, in bringing the edges of the skin together with the employment of some force. In some cases I have had to skin-graft the surface or part of the surface left, and the results obtained by skin-grafting are most excellent; but in the majority of cases I succeed, in spite of the free removal of skin which I advocate, in stitching up the whole wound. No doubt at first there is some compression of the side of the chest from the skin which is drawn so tightly over it, but in the course of a few weeks the skin gradually accommodates itself and in three or four months the feeling of tightness and the actual tightness of the skin have gone.

Removal of the breast.—What has just been said as to the method of dissecting up the skin indicates to what extent the breast should be removed and I need only remind the reader that the breast extends far beyond any part that can be felt by the fingers, and to remove the breast only as far as one can feel the edge of it, as has been lately suggested, would be to leave breast tissue all around the area of the operation.

Removal of deep fascia.—None of the pectoral fascia or the fascia over the muscles must be left behind in the area of the wound. If the whole muscle is not taken away a superficial layer of it at least must be dissected off so as to insure the proper removal of the fascia and the lymphatic vessels which run in it.

Removal of muscle.—It is about the question of the pectoralis major muscle that the main controversy arises and the chief advocate of the removal of the whole of the pectoralis muscle, at least of the whole of the thoracic origin of the muscle, is Halsted of Baltimore. In fact, it is practically only in this point that his operation differs from mine. I remove the lower part, say half of the muscle, in all cases—that is to say, all the muscle which lies behind the cancer from a little a the cancer down to its lower edge; and I only take awa whole of the muscle, or even the whole of the pectoral o of the muscle, where there is evident disease of the m itself. Halsted, on the other hand, removes the pec origin of the pectoralis major in all cases, his reaso

FIG. 1.

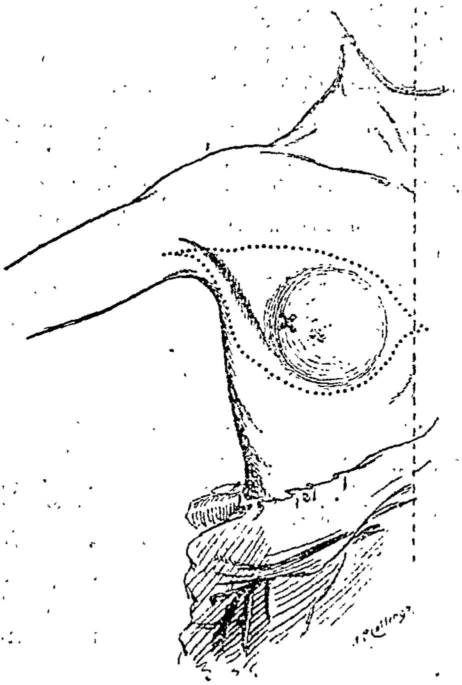


FIG. 2.

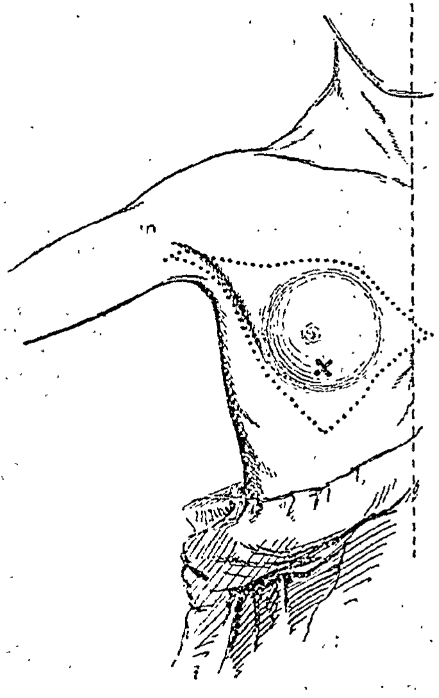


FIG. 3.

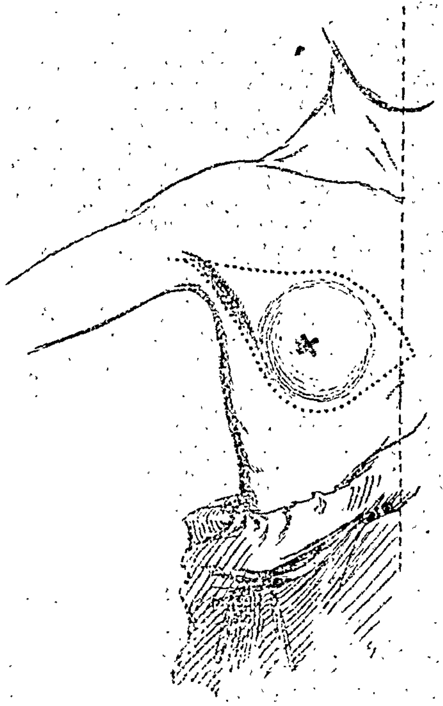
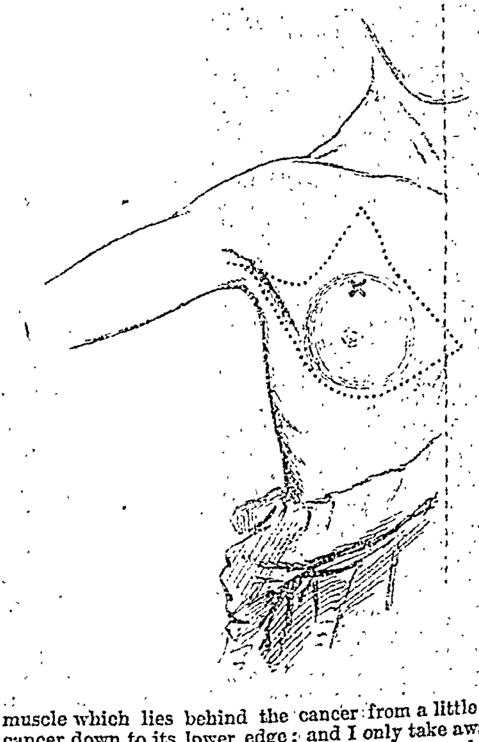
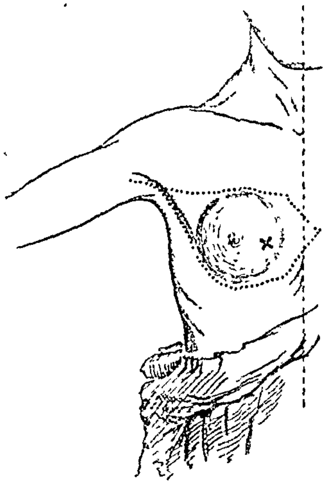


FIG. 4.



doing so not being so much the removal of diseased tissues as with the view of opening up the axilla fully so as to get away all the glands. Indeed, Halsted goes further and not only removes the pectoralis major but also the pectoralis minor, or at least he divides the pectoralis minor and turns it aside. From the point of view of clearing the axilla I consider that the removal of the whole of the pectoralis major muscle and more especially of the pectoralis minor muscle is quite unnecessary, and I am afraid that the tendency may come to be to attach too much importance to the removal of muscle and too little importance to the removal of the outlying lobules of the breast and of the skin in these operations In my own experience when the lower half of the pectoralis major muscle has been taken away it is quite easy to completely expose the axilla and the removal of the pectoralis minor muscle is quite unnecessary for this purpose. The fascia over the pectoralis minor muscle should of course be removed, as well as that over the pectoralis major, and when it has been detached from the upper and lower edges of the muscle, the muscle which is quite narrow where it passes over the axilla can be pulled upwards and downwards so as to afford a free view of the contents of that space. After detaching the fascia over the under surface of the pectoralis major it can be lifted up so that one can see quite up to the clavicle, and then the costo-coracoid membrane, the fat over it, and the fascia over the pectoralis minor can be removed and one can see right up to the apex of the axilla. The pectoralis minor can be hooked down and one can see behind it at the upper part, and hooked up and one can see behind it at the lower part and thus the whole of the axilla can be easily cleared. I think that my results fully justify my contention that it is unnecessary to remove the whole of the pectoralis major muscle and the pectoralis minor in all cases; in fact, my results are practically the same as those obtained by Halsted.

FIG. 5.



Removal of glands.—The thorough clearing of the axilla is of course an absolutely essential part of this operation. When the lower part of the pectoralis major muscle with the overlying breast has been detached and turned forward, the fascia is dissected off the serratus magnus muscle along with the superficial fibres of that muscle and then separated from the latissimus dorsi and thus the whole of the fat and glands in the lower part of the axilla are raised in one mass up to the level of the vessels. The breast then being allowed to hang over the side, the pectoralis major and minor muscles are held out of the way and the fat is dissected downwards and inwards from the upper part in front of the vessels and nerves till the vein is exposed. The sheath of the vein is then opened and stripped off from the arm up to the apex of the axilla and then the fat and glands below are also detached. In this way the whole of the glands in front of and below the axillary vein are removed and there only remain the glands and lymphatics which run up behind the vessels towards the posterior triangle of the neck. The vessels and nerves must therefore be lifted up, and this mass of fat and glands lying in the triangular space between the vessels in front, the scapula outside, and the chest wall inside, should also be taken away.

Another question which has to be considered is whether and when it is necessary to clear out the posterior triangle of the neck. The lymphatic infection in cases of breast disease follows two lines; in the one case, and that most commonly, the infected glands run up in the immediate neighbourhood of the axillary vein and generally towards the pectoral side of it to the apex of the axilla and thence they pass on to the root of the neck in front, and then probably into the anterior mediastinum; a second course which the lymphatic vessels take is upwards in the fat behind the vessels to the posterior part of the posterior triangle of the neck. This is, as a matter of fact, a decidedly less frequent direction than the former; in fact, in a recent paper Halsted, who now always removes the fat and glands from the posterior triangle of the neck and has them carefully searched microscopically, states that only in about 34 per cent. of the cases in which this has been done has he found evidence of disease in that region. Hence it is clear that it is not always necessary to remove the glands from the posterior triangle of the neck, and as a matter of fact the rule which I follow is the following—assuming, of course, that there is no enlargement to be felt there before the operation. I do not clear out the posterior triangle of the neck unless I find that in the fat behind the vessels running up in the direction of the posterior triangle there are enlarged glands. In that case I assume that the course of the lymphatic disease will tend towards the posterior triangle and that therefore it ought to be cleared out; but where I find no evidence of disease in the fat and glands running up behind the vessels I do not think that it is necessary to prolong the operation and to increase the shock to the patient by opening up the posterior triangle of the neck and, as a matter of experience, I have hardly ever seen a recurrence in the glands of the posterior triangle of the neck.

Another question which arises out of this is how far the presence of infected glands in the neck is a contra-indication to operation at all. Halsted himself does not admit that it is a contra-indication—in fact, he looks forward to a time when not only will the breast and the triangles of the neck be cleared out but also the anterior mediastinum. For my own part I am inclined to doubt whether it is worth while operating on a patient in whom there is marked enlargement of cervical glands and I should put it in this way. If there is enlargement of glands in the posterior part of the posterior triangle I do not consider that that is necessarily a contra-indication to radical operation provided that the patient is in a state to stand a prolonged operation. On the other hand, if at the root of the neck in front of or beneath the sterno-mastoid there are glands of considerable size I do not believe that it is worth while subjecting the patient to a radical operation, for I can hardly think that in such cases the results as regards recurrence will justify it. Although Halsted advocates this procedure there is no evidence in his paper as to the results in the cases in which it has been carried out and without such evidence we cannot, of course, form any opinion on the matter.

After-treatment.—There is one point as regards the after-treatment of these cases which is of very great value and which we owe to the late Mr. Edward Cotterell. Instead of fixing the arm to the side, as was formerly done after the operation, with the result that there was a good deal of contraction and that a considerable time elapsed before the patient could use her arm at all freely, he fixed the arm at right angles to the chest by means of a special splint. This is, I think, a great advantage and I always carry it out, but instead of a splint I find that it is [illegible] to place a large pad of salicylic wool in the [illegible] at about right angles with the [illegible] arm on a pillow. Even after [illegible] keep the arm out from the [illegible] as a right angle, for some deal of the contraction which follows these extensive operations is avoided and the patient recovers the use of her arm much more quickly than when it is bound to the side.

Taking the results which I have given in this paper along with the results obtained by Halsted, Butlin, and a variety of other operators, I think that we are justified in drawing the following conclusions. 1. Taking cases of all kinds together, not merely selecting favourable cases for operation but operating on all cases in which operation is possible with the exceptions which I have already mentioned, we may, I think, reckon that about 50 per cent. of the patients will remain free from recurrence if the operations are carried out on the lines laid down by Heidenhain and Stiles. 2. That even in the cases which do recur recurrence is considerably delayed and the patient enjoys a considerable interval of good health. 3. That the repeated operations which take place after the old operation are now very rare, recurrences when they do appear being usually in inoperable situations. 4. It will be evident from my results that the chance of recurrence is extremely slight after these extensive operations in patients who have remained well for from one to two years, and after three years there is only one example in my list of fresh cancer, and in that case there is no evidence that that was one of recurrence of the original disease rather than a fresh development. 5. I may add my firm conviction that *the patient's chance lies in the first operation.* If this fails, either from imperfect removal of the disease or on account of the extent of the disease in the first instance, further operation, however extensive, is seldom successful. This is my experience. I see a good many cases which have been operated upon elsewhere and in which recurrence has taken place, especially cases in which the old operation has been performed, and in the few in which I have been tempted to give the patients another chance by an extensive operation the results have been almost uniformly disappointing. Where a cancer is quite small patients and practitioners are very apt to be content in the first instance with a small operation thinking that if recurrence takes place an extensive removal can be performed afterwards. This is, I am satisfied, an utter fallacy, and the performance of a partial operation in the first instance takes away the patient's best and often her only real chance of getting rid of the disease.

Harley-street, W.

NOTE ON THE

PRODUCTION OF SYMPTOMS OF THYROIDISM IN A CHILD AT THE BREAST BY THE ADMINISTRATION OF THYROID EXTRACT TO THE MOTHER—I.E., THROUGH THE MILK.

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IN one of my cases of myxœdema treated by thyroid extract the breasts filled with rich milk during the course of the thyroid treatment. This fact seemed to suggest that thyroid extract might be usefully employed in nursing women with the object of increasing the flow of milk, but the following case in which thyroid extract given to the mother (who was suffering from exophthalmic goitre) repeatedly produced well-marked symptoms of thyroidism in the infant she was nursing shows that the remedy would have to be given for such a purpose with great care and caution. The notes of the case are as follows.

A married woman, aged 34 years, who was nursing her child, aged six months, was admitted to the Edinburgh Royal Infirmary on Dec. 17th, 1894, suffering from exophthalmic goitre. The disease had developed six months previously—i.e., immediately after the birth of the child she was nursing at the time of her admission to hospital. The delivery was easy. The child had clubbed feet; this caused the mother much mental distress, and (? as the result of this mental distress) the symptoms of exophthalmic goitre quickly developed. On admission, with the exception of the clubbed feet the child was normal in every respect. The mother presented all the classical symptoms of exophthalmic goitre. On Dec. 24th thyroid extract (two five-grain tabloids daily) was administered to the mother. On Jan. 1st, 1895, it was noted that "the child has been sweating profusely for several nights past. It is looking ill and has been sleepless. It has vomited every morning for the past three days. Until a few days ago it was perfectly well, and has in fact never been ill since its birth." The question at once arose whether these symptoms in the child were due to the thyroid extract which the mother was taking. The thyroid was consequently stopped for five days. The child immediately improved, was much less restless, slept better, sweated less, and did not vomit. On Jan. 3rd it was noted that "the child is very much better," and on the 4th that "it is perfectly well." On the 9th thyroid extract was again given to the mother. The next day (the 10th) the child vomited, was restless, did not look well, and sweated profusely. The thyroid extract was consequently stopped. On the 12th the child was all right again. On the 13th two tabloids of thyroid extract were again given to the mother. On the 14th the child was again sick, looked ill, sweated profusely, and was restless at night. On the 15th the child was weaned and after this date remained perfectly well until the 25th, when the mother was discharged from the hospital.

Remarks.—There can, I think, be no doubt that in this case the administration of thyroid extract to the mother produced symptoms of thyroidism in the child, the thyroid extract being conveyed to the child through the milk. This was noted on three occasions and it is evident that the point—whether thyroid extract given to the mother can produce symptoms of thyroidism in her child at the breast—is not merely of theoretical but of distinct practical importance.

Edinburgh.

A CASE OF BLACKWATER FEVER COMPLICATED BY DYSENTERY.

BY A. T. WOOLDRIDGE, L.R.C.P. LOND., M.R.C.S. ENG., L.S.A.

THIS case presents some features of special interest; it is that of an officer, aged 26 years, who was in Ceylon in 1892 on a shooting expedition and there developed malarial fever. He had fever on the ship all the way home but did not lie up. On arriving in England he had a bad attack of malaria. In August, 1897, he went out to the Niger and was there only six weeks when he was attacked with dysentery. He remained there 14 months and had three distinct attacks of dysentery and several of malarial fever. He had not previously had blackwater fever. Last October he had a bad attack of fever on his way to England. He had never quite recovered from the dysentery.

On Nov. 25th, 1898, he went to Aldershot to mess and became chilled. Next morning he felt very shivery, came home, and went to bed. I saw him for the first time at 11.30 A.M. on Nov. 27th when he had just had a severe rigor. He was then in the hot stage. His temperature was 104° F. He was jaundiced and had been vomiting. His urine was like porter when viewed in bulk. In the evening I saw the patient in consultation with Lieutenant-Colonel A. Clarke, R.A.M.C. His temperature was then beginning to fall. His urine was claret-coloured. Neither the spleen nor the liver was enlarged and he had no pain in the loins. I should mention here that on Nov. 26th the patient took no quinine and on the morning of the 27th just before I saw him he took a five-grain tabloid of sulphate of quinine and immediately rejected it. On the 28th he was vomiting green fluid almost incessantly. At noon he had a slight rigor. His temperature was 104·2°. The urine was red by transmitted light, had an acid reaction, and contained albumin. Under the microscope no blood corpuscles could be seen. Early on the morning of the 29th I saw the patient in consultation with Mr. W. H. Crosse, late Principal Medical Officer Royal Niger Company. We took some blood-slides and on examination at Guy's Hospital by Mr. Crosse and Mr. Pakes hæmatozoa were found to be present. The patient passed a small quantity of slightly smoky urine which was loaded with albumin. The dysentery still continued; on this day the motions were 10 in number, liquid, dark, mixed with slime and blood;

and horribly offensive. In the evening the headache was less and the jaundice was less marked. The nausea and vomiting, however, were most distressing and the vomit was still bright green. From Nov. 30th to Dec. 4th there was no hyperpyrexia and the fever seemed to be taking on a quotidian type, falling to normal or below it every day and rising to about 99·4°. During this time the patient seemed better, took his nourishment, and slept well. The jaundice was less but he was very anæmic. The vomiting ceased and the dysentery abated a little, the motions being partly formed for some days. The urine remained clear and there was no albumin. On the evening of Dec. 4th, however, his temperature began to run up again and by 4 P.M. on Dec. 5th it had reached 103°. His urine became claret-coloured again, was albuminous, and had a specific gravity of 1012. Under the microscope, according to the report of the Clinical Research Association, "the deposit was seen to consist of a brownish granular débris, apparently the result of the disintegration of blood discs. Hyaline, granular, and epithelial tube-casts were present, but not in any quantity. Leucocytes were not markedly increased in number. Some crystals of uric acid were present. No torulæ were found." By the evening his urine was clearing again and was only slightly albuminous. On Dec. 6th the urine was of the colour of brown sherry. Blood from the peripheral circulation on being examined by Mr. Crosse was found to contain no parasites but nucleated red cells. On Dec. 8th the patient was much worse. His temperature went up to 104° and his pulse to 112. There was no hæmoglobinuria. There was no sign of any lung complication or hepatic abscess. The spleen could just be felt. On Dec. 9th he suddenly fainted and became pulseless while lying quietly in bed; he soon rallied, however, after administration of some stimulant. He vomited twice. His temperature, which was 93·8° in the morning, rose to 102° in the course of the day. Between Dec. 9th and 12th the fever seemed to take on a more remittent type, as it never dropped lower than 99·4° and there was a daily rise of a degree or more. The patient's colour improved and his lips were not so white. There was no action of the bowels on Dec. 10th and 11th. On the 12th there was one motion of the consistency of a poultice, dark brown, without blood or slime, still somewhat offensive. The urine was now averaging about 50 ounces a day and there was no albumin. On the 16th his temperature fell to below normal for the first time. He got up on the 22nd. The temperature fluctuated somewhat until Jan. 7th, 1899, when the maximum was 98·6°. On Jan. 14th he went out of doors.

The treatment for the first 10 days was sulphate of quinine by the mouth in doses varying according to the amount of pyrexia present. He also had a few doses of bicarbonate of soda which relieved the nausea considerably. For the tenesmus I found starch and opium enemata very successful. On the eleventh day I stopped the sulphate of quinine and gave him 18 grains of the bi-hydrochlorate of quinine hypodermically every day, gradually reducing the doses until Dec. 16th, when I stopped quinine altogether and substituted for it iron jelloids (Warwick). At a later stage I prescribed salol in 10-grain doses and the character of the motions was greatly improved thereby, becoming normal in appearance again by the middle of January.

The chief points of interest appear to me to be: (1) that the patient was debilitated by dysentery and by previous attacks of malarial fever; (2) that he had never had blackwater fever before; and (3) that he had had no quinine just before the onset of hæmoglobinuria. I believe this to be the only case on record in which a person has had his first attack of blackwater fever in England. Another point is that there was at no time any tendency to suppression of urine. The course of his temperature showed the fact mentioned by most writers that in blackwater fever the temperature follows an erratic course and that one form of fever tends to merge into another.

Camberley, Surrey.

DEATH OF A CENTENARIAN.—A man named Kohn, said to be the oldest man in Vienna, died there on Feb. 28th, at the age of 112 years, according to a certificate signed by the public notary and by the secretary of the Jewish community of Fraunkirchen, in the county of Wieselburg, in Hungary. He enjoyed talking of his reminiscences of the Napoleonic wars in Austria-Hungary. He married a second time when he was 67 years of age and went to Vienna

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NOTES ON A CASE OF DIVERTICULUM OF THE BLADDER.

BY G. A. WRIGHT, F.R.C.S. ENG.,

AND

WILLIAM COATES, M.R.C.S. ENG.

THE patient, a man, aged 38 years, was first seen by Mr. Coates on Oct. 28th, 1898. The patient was complaining of a constant desire to pass urine, of pain in the lower part of the abdomen, of headache, and of feverishness. He stated that in early life he had had three attacks of gonorrhœa and also syphilis. 11 years ago he had painful micturition and his medical attendant advised him to pass a catheter regularly. This he had done ever since, at first twice daily but with increasing frequency until now he passed his catheter twice every hour. He used a No. 12 Jaques. It was never cleansed or disinfected and only rarely lubricated; it was carried in his pocket wherever he went. During the course of these 11 years he had several attacks of hæmorrhagic cystitis but he had never been in bed for more than 10 days. He habitually took considerable quantities of alcohol. When seen the patient was very ill; the temperature was 102° F. and the pulse was 116, small and weak. He had a constant desire to urinate and the urine was very foul, hæmorrhagic, and muco-purulent. The tongue was coated. On abdominal examination a swelling was noticed in the region of the bladder reaching midway between the umbilicus and the pubes. It was irregular in outline, hard, and prolonged on the left side into the inguinal region. It was less marked on the right side. On passing a Jaques catheter about two ounces of urine were drawn off, and on withdrawing the catheter half an inch a further half-ounce came away. The withdrawal of urine made no appreciable difference in the abdominal swelling. A sound passed into the bladder could not be moved freely; no stone was felt. The patient's condition improved slightly after the use of drugs and antiseptics and washing out the bladder, but after two days' treatment he was still so weak and ill that the question of operation became imminent.[1]

On Oct. 31st the man looked very ill; his temperature was about 99·8° and his pulse was quick and feeble. He was tremulous and he had a constant desire to pass urine. His urine was not then very foul. The local condition has been described above. There was nothing abnormal felt per rectum. On passing a large sound into the bladder it could not be depressed, though no obstruction to its entry into the bladder was felt. We thought that possibly the case was one of extravasation around the bladder from the giving way of its inflamed and softened walls, possibly a perivesical inflammation or perhaps a case of diverticulum, the latter view being supported by the results of catheterism. In any case a suprapubic operation was advised. This was declined at the time, but it was agreed to on Nov. 3rd when the man's condition was much worse; he had great pain and hiccough, though his pulse was better. On cutting down upon the bladder above the pubes it was found so hard and thick that it was with difficulty that a knife was pushed into it. On passing a finger into the cavity a diverticulum was found on the right side of about four times the size of the bladder. The bladder itself was pushed away to the left and was only made out by examination with a sound passed through the urethra. The diverticulum lay behind and to the right. A rubber drainage-tube was passed into the diverticulum and it was washed out. The man lingered for a few days and died. At the necropsy the kidneys were found to be suppurating. There was no obstruction to the urethra. The diverticulum opened into the bladder near the orifice of the right ureter.

We have thought this case worth recording as an example of diverticulum of the bladder occurring without any obvious cause of obstruction to the escape of urine. It appears to exactly correspond with the case recorded by Sir John Erichsen. In the present instance the chronically inflamed and constantly irritated bladder seems to have undergone the changes which might be expected to occur as a result of mechanical obstruction and a weak spot in the bladder wall yielded and formed the sacculus. It is an interesting and rare result of misuse of a catheter.

Manchester.

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[1] The above account is

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Prooemium.

ST. PANCRAS INFIRMARY, HIGHGATE.

A CASE OF DISPLACED OVARIAN CYST WITH TORSION AND HÆMATOMA OF THE PEDICLE.

(*Under the care of Dr. J. SMEDLEY BODEN.*)

IT is remarkable that the cyst of the ovary in the following case had not interfered in any way with the three confinements which took place after its presence had been diagnosed. The enlarged uterus had evidently excluded it from the cavity of the pelvis, for when an ovarian cyst of moderate size complicates a pregnancy danger chiefly arises from the cyst becoming impacted in the pelvis and so interfering with the entry of the head. With a large cyst the danger is more likely to come from rupture during parturition. The suddenness of the onset in this case was very suggestive of torsion of the pedicle of an ovarian cyst.

The patient was a widow, aged 42 years, who had had six children and one miscarriage; the latter occurred 11 years ago and since then she had had three full-term confinements. 14 years ago she was in the Samaritan Hospital for sickness and abdominal pain and was then told that she had an abdominal tumour. Three years later she was in the Royal Free Hospital where she was examined under an anæsthetic, *the result of which examination, thanks to the courtesy of* the registrar, Dr. Boden is able to give verbatim: "A tumour is felt, smooth on the surface, elastic, elongated transversely, and occupying the posterior cul-de-sac. It can be pushed up and felt by the hand on the abdomen and seems as large as a good-sized fœtal head. There is also a swelling felt in, and a little posterior to, the right broad ligament. There seems to be a slight interval between the two tumours, but they are undoubtedly connected. The uterus is quite small and can be readily felt normally placed." The patient had been under treatment twice since for similar attacks, the last time in 1896, when she vomited a considerable quantity of blood. Menstruation had been regular up till the attack in 1896 in which hæmatemesis occurred; since then it had been scanty and occurred at intervals of several months only.

On April 6th, 1898, Dr. Boden was called to see the patient who, whilst reaching up to sweep the walls of a ward with a long broom, had been suddenly seized with violent pain in the left side of the abdomen which doubled her up and induced early vomiting. On getting her to bed the recti abdominis were found to be tense; the abdomen was generally tender, especially in the right inguinal region, where pressure produced acute pain shooting up into the left loin. Under appropriate treatment the peritonitis subsided and by the end of a week tenderness was confined to a dome-shaped swelling above the middle of Poupart's ligament on the right side. As soon as the localised tenderness allowed this was made out to be a fairly mobile, soft, fluctuating tumour situated behind and to the right side of the uterus and was diagnosed as a cyst of the right ovary.

The patient being desirous of having something radical done she was prepared for operation on April 29th. The operation lasted one hour and a quarter and ether was administered throughout. Dr. Boden exposed the anterior surface of the tumour by a median incision five inches long; on endeavouring to bring the cyst up out of the abdomen adhesions were found between it and the omentum, small intestines, cæcum, and vermiform appendix; these appeared to be recent and were all separated by careful sponging, no ligatures being required. On reaching the pedicle and separating its adhesions it was found to be twisted so that two complete rotations of the cyst were necessary to straighten it, and between its layers was found a swelling of the size of a bantam's egg containing tarry fluid. The pedicle was transfixed on the uterine side of the hæmatoma and ligatured and the cyst was removed. In now passing the hand down into the pelvis to ascertain the condition of the other ovary the stump already made was felt attached to the left side of the uterus. The right ovary was then found normally placed and was removed as it showed cystic change. In spite of the many adhesions the peritoneum was fairly dry by the end of the operation so that no drainage was considered essential. The abdominal walls were sutured in layers with silk. The tumour was a multilocular cyst with two main loculi, giving it the shape of a cottage-loaf; the smaller of the two dipped into the pelvis behind the uterus. Its weight untapped was just over two pounds. The after-history was satisfactorily uneventful and the patient has now for some time resumed her duties as ward scrubber.

Remarks by DR. BODEN.—This case seems to be worthy of reporting not only on account of the unusual condition of the parts found at the operation but more especially from the fact that the patient, who had had an ovarian cyst certainly since 1886 when she was in the Royal Free Hospital, had nevertheless been four times pregnant subsequently to that date. She had a miscarriage in 1886. Three full-term children were born since, one in 1887, one in 1889, and the last in 1890. I have been unable to obtain any record of the actual confinements. She was attended from a hospital maternity and as no record of the case was made the existence of the cyst was probably overlooked. The patient herself states that there was nothing unusual about her last confinements except that she had rather longer times with her last three than with her earlier children. The cause of the last attack of peritonitis would appear to have been the rupture of a vessel within the pedicle of the cyst. I must in conclusion express my indebtedness to my colleagues Dr. Chilcott and Mr. Chatterton—the former for his assistance at the operation and the latter for administering the anæsthetic.

PETERBOROUGH INFIRMARY.

A CASE OF SWALLOWING STONES.

(Under the care of Dr. CANE.)

IF a foreign body has been swallowed and has reached the stomach it will in all probability be able to pass unobstructed through the rest of the alimentary canal, and if it should be arrested at any point such arrest is in all probability due to some accidental cause and not merely to the size of the body.[1] In the case reported below the practice of swallowing pebbles had continued for many years without harmful result, but the patient had evidently exercised care in the choice of the stones to be swallowed and it is not improbable that all his symptoms arose from the jagged-edged stone which had to be extracted from the rectum, for sharp points and edges are liable to interfere with the onward passage of the foreign body. We know of no other case in which the practice of swallowing foreign bodies has been carried on for so long a time and with so much impunity. For the notes of the case we are indebted to Mr. Vernon C. Bensley, house surgeon.

A man, aged 32 years, tall and powerfully built, was admitted into the Peterborough Infirmary on Feb. 13th, 1899, at 11.30 P.M., for intestinal obstruction caused by the impaction of pebbles. His history was as follows. When 14 years of age he saw a juggler performing at some country fair. Amongst other items on this man's programme was the swallowing (?) of stones and glass, the latter substance being only chewed. These remarkable feats had such a strong fascination for the lad's brain that he went straight home and swallowed 12 pebbles which he passed per rectum next morning without any ill effects. At his next attempt he managed to swallow 20 stones. In the year 1885 he enlisted and saw active service in Egypt and in the Soudan, taking part in various engagements and receiving a wound of the hand at the battle of Tel-el-Kebir. He remained with the colours for six and a half years, and during this time he occasionally amused his officers and the men with his juggling feats which included the swallowing of stones. After retiring from the army he was placed in the reserve for six years, and during this time he made juggling his sole profession, travelling with Barnum and Bailey's show in the summer and on his own account in the winter. He gave great satisfaction to the show proprietors who offered to take him to America, but this was refused. In this way, he said, he performed in most of the towns of England, Scotland, and Wales. He also took to chewing glass and swallowing the powder, but this he found very distasteful to his teeth and gave it up. The stones which he swallowed during the day he used to pass the next morning or sometimes in the afternoon and always without the slightest pain or discomfort. Occasionally he would have to assist their passage out of the rectum with his finger, but there was never any further difficulty. The number, weight, and size of the stones he swallowed varied very much. He once swallowed, he said, stones to the weight of nine and a half pounds at one performance. On Feb. 10th he gave a performance and as usual passed the stones the next morning, on which day, in the morning, afternoon, and evening, he gave three performances in the market place at Kettering. On the next morning he failed to pass them. The afternoon came and still the stones were not passed, and in the evening he felt paroxysmal collicky pains in the abdomen. On the next day (the 13th) he consulted Dr. W. J. Johnson of Shefford, who very kindly sent a report of his condition at that time, from which Mr. Bensley has taken the following extract:—

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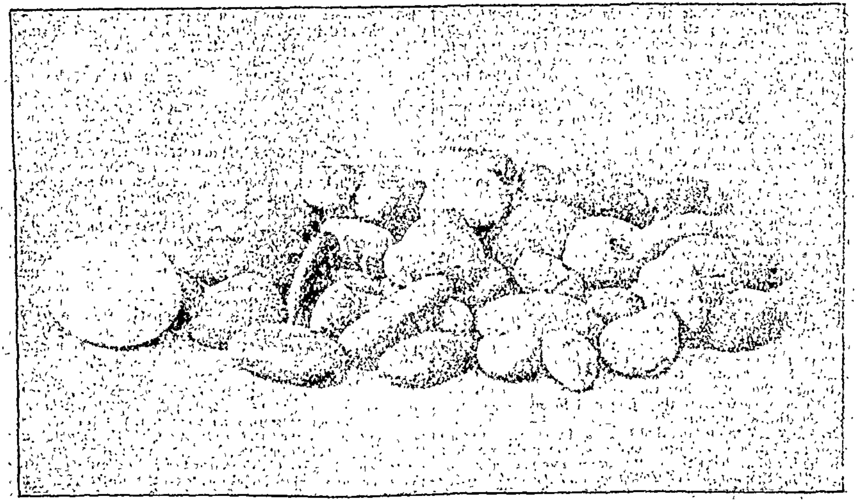
[1] Maylard: Surgery of the Alimentary Canal, p. 329.

"On Feb. 13th, at 6.30 P.M., the patient was in a common lodging house, sitting on a low form and, doubled up with pain. He said that he had swallowed some 13 dozen pebbles weighing about five pounds and a half. His bowels had not been open since the 11th although he had had a frequent desire to defecate, but without effect with the exception of passing 'blood and slime' and six pebbles. On examining his abdomen there was found a large tumour in the right iliac fossa causing bulging of the abdominal wall in this region and quite perceptible to the eye. The pebbles could be felt and the fingers could be got between them, and crepitus was felt. His pulse was rapid (about 100) and small and his temperature was 99·8° F. He had taken one ounce of castor oil about two hours previously. At 9.30 P.M. he was in much the same condition, but his pulse was more rapid and was smaller and his temperature was 100·8°. He had removed six more pebbles from his rectum and there were no more within reach of his finger. Considering his bad hygienic surroundings it was thought to be advisable to send him to the Peterborough Infirmary. Before he started for the infirmary he was given 20 minims of tincture of opium and one ounce of brandy."


The contents of the rectum photographed. To the left is seen a pigeon's egg by which the size of the stones can be estimated. The reduction in size is a little over one-third.

The patient arrived at the Peterborough Infirmary at

pain. There had been no vomiting, but he was rather collapsed. His pulse was 108 and his temperature was 99·8°. On examining the abdomen there were evident distension of the large bowel and diffuse tenderness, most marked in the right iliac fossa. No tumour could be felt. Mr. Bensley found in the rectum, closely packed together, a number of pebbles, and at once proceeded to extract them with the finger, that being the most harmless instrument in his possession. The extraction of the first five or six was difficult owing to the contraction of the sphincter ani, but when this relaxed their extraction was accelerated. These manipulations were carried out without an anæsthetic and caused some pain, but this was found to be due to the fact that one stone had a jagged edge and after it was extracted there was no more pain. A good deal of flatus was at the same time expelled. There were two stones which could only just be touched with the tips of the fingers and these were brought down with the aid of a scoop. In all 66 stones were extracted; an operation which gave the patient great relief and he passed a good night and next morning he passed six more stones. On the evening of the same day 12 more stones were extracted and on the following morning he again passed seven, making 91 stones in all, which weighed exactly two pounds. The man was discharged from the infirmary on the 18th quite well. He earnestly promised that he would never swallow another stone.

Remarks by MR. BENSLEY.—The above case is, I think, of great interest in that it shows the remarkable tolerance of the walls of the human alimentary canal to foreign bodies. The stones vary much in size, the largest being one and a half inches in length, one inch in breadth, and half an inch in thickness. They have all with one exception rounded edges and it would appear that much time must have been spent in their selection. They are well shown in the accompanying illustration, on the left of which will be seen a pigeon's egg which was placed there in order to display the relative sizes of the stones. The only similar case I know of is the habit which the South African native labourers in the diamond mines have of swallowing diamonds. It is said that thousands of pounds worth of diamonds are annually recovered with the aid of castor oil. I regret that a Roentgen ray photograph could not be obtained. In conclusion, I have to thank Dr. W. J. Johnson for his report of the case and also Mr. A. C. Taylor, the secretary to the Peterborough

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Myelopathic Albumosuria.

A MEETING of this society was held on March 14th, Mr. **THOMAS BRYANT**, the President, being in the chair.

Dr. T. R. **BRADSHAW** and Dr. W. B. **WARRINGTON** contributed a paper on the Morbid Anatomy and Pathology of Dr. Bradshaw's case of Myelopathic Albumosuria. An account of the clinical features of this case was read by Dr. Bradshaw before the Royal Medical and Chirurgical Society in April, 1898, while the patient was alive. Large quantities of albumose were present in the urine for more than a year and some months before death indications of softening and fragility of the ribs, sternum, and vertebræ appeared. The diagnosis made was multiple myeloma—a condition which had been found at the necropsy of patients in former cases of albumosuria but which had never been recognised during their lifetime. Death took place in August, 1898, and the diagnosis was confirmed by the post-mortem examination. The affected bones were brittle, their deeper parts being occupied by a soft round-celled mass and the osseous tissue reduced to a mere shell. Their form, however, was not altered and there were no tumours anywhere. The new growth was submitted to a careful microscopical examination, the results of which were given *in extenso* in the paper. The kidneys were the seat of chronic interstitial nephritis of a moderate degree. The clinical history and the morbid anatomy differed materially from osteo-malacia but corresponded with the description of former cases of multiple myeloma. Only six well-attested cases of albumosuria with bone disease had been published when Dr. Bradshaw read his first paper on the present case. In some of them the bone disease had been altogether overlooked during life, and in the others it had been considered to be osteo-malacia. The present was the first case of albumosuria in which the diagnosis of multiple myeloma had been made and confirmed at the necropsy. Dr. Bradshaw and Dr. Warrington reviewed the six previous cases and pointed out their general similarity to the present one. They laid special stress on the importance of the remarkable reactions of the urine in these cases, and expressed their opinion that the cases of multiple myeloma with albumosuria were of an entirely different nature from those in which albumose does not occur in the urine. For cases of albumosuria with new formations in the marrow they proposed to adopt the term "myelopathic albumosuria."

Dr. **PARKES WEBER** said that in its main features the case described in the paper corresponded with one which he had published under the title of "General Lymphomatosis of Bones" in the *Journal of Pathology and Bacteriology* for January, 1898. In both cases the patients were old men with increasing kyphosis, with severe pains in the bones and progressive debility. Pneumonia was present at the time of death in his and in other published cases and Dr. Bradshaw's patient suffered from pneumonia in the course of the disease but recovered from it. In Dr. Parkes Weber's case nothing abnormal was noticed in the urine when the patient first came under observation, but unfortunately no subsequent observations were made. Possibly, however, albumose might have been present before death, as in a case observed by Senator albumose only made its appearance late in the course of the disease. In Dr. Weber's case there were deposits of calcium phosphate in the kidney, probably not associated with the bone tumours but with the presence of a small adenoma of the kidney. Although it was most easy to account for the presence of albumosuria by supposing that the albumose was formed in the new growth it was difficult to see why albumosuria did not occur in association with lymphomatous growths in other organs of the body.

Dr. A. T. H. **WATERS** (Liverpool) said that he had seen the patient during life. Such cases must be very rare as he had never come across any other in either private or hospital practice. It was possible that they did occur and were overlooked. Now that attention had been drawn to them and that observers had such a careful description to guide them as that given by Dr. Bradshaw and Dr. Warrington probably they would be more often met with. Cases were most likely to come under the observation of the surgeon or to be found in the infirmaries. It was most important to determine whether the presence of albumose was to be regarded as indicative of a certain specific disease.

Dr. **BRADSHAW**, in reply, said that out of 16 cases of multiple myoma on record albumose was only detected in six. Round-celled growths in other parts of the body did not cause albumosuria and they might occur in bones without albumosuria, and he thought that the change in bones which caused albumosuria in the six cases in which it had been found was something *sui generis*.

MEDICAL SOCIETY OF LONDON.

Radical Operation for Inguinal Hernia.

A MEETING of this society was held on March 13th, Mr. **EDMUND OWEN**, President, being in the chair.

Mr. **JOHN LANGTON** read a paper on the Radical Operation for Inguinal Hernia and afterwards traced the history and progress of the surgical treatment of inguinal hernia from the earliest times, observing that surgeons even in comparatively modern times had not viewed with favour operation for the cure of hernia. Up to 1835 no attempt was made to occlude the canal and it was not until Mr. John Wood introduced his improved operation in 1857 that any great success was attained. Mr. Wood claimed 70 per cent. as successes, but Dr. Cheever of Boston stated in 1870 that in America the statistics showed that barely 25 per cent. were permanently cured and reported 20 cases of operation with two deaths. Mr. Langton described four methods of procedure which appeared to involve definite principles as distinct from mere modifications of detail: (1) reconstruction of the inguinal canal with transplantation of the vas deferens and its vessels to the upper angle of the incision so as to form a new inner ring; (2) operations in which the whole or part of the sac was utilised to form a pad or buffer within, or close to, the inner ring so that the peritoneal fossa usually met with is converted into a convex buffer; (3) ligature of the sac close to the inner ring, its excision, and the reconstruction of the inguinal canal; and (4) partial removal of the sac, its ligation and torsion, its withdrawal through the conjoined tendon and the inner pillar of the external abdominal ring, and its retention in this situation by suture. He remarked that it was impossible to determine the exact method to be adopted until the parts were exposed and the conditions were thoroughly examined. He himself preferred and practised whenever possible the operation first described with certain modifications. He described this operation in detail. Kangaroo tendon was used as a continuous rather than as an interrupted suture, the coaptation of the canal being thereby made more complete. Drainage was needed only when hæmorrhage had been profuse or when a cavity was left after removal of a large hernia. In males between 10 and 15 years of age, especially when omentum presented, Mr. Langton's practice was to drag down a considerable piece, returning it into the peritoneal cavity after securely ligaturing it. Rest and maintenance of the recumbent position for a month were most important elements in the after-treatment. Passing on to discuss the question of suppuration he commented upon the widely divergent remarks recorded by various operators in this respect. At St. Bartholomew's Hospital the proportion of suppurative cases amounted to 16·5 per cent. One of the main causes of this, he suggested, was insufficient cleansing of the skin prior to operation. Most surgeons would agree that this complication tended to lessen the full benefit of the operation, though there were surgeons who held the opposite opinion. With respect of the mortality of the operation the danger had been rendered practically *nil*. At St. Bartholomew's Hospital during the six years ending 1898 there were only two deaths in about 650 cases of reducible hernia, one from septic pneumonia and one from scarlet fever. Of 48 cases of irreducible inguinal epiplocele operated on two died, neither death being directly due to the operation. The mortality had greatly improved since 1880. Owing to the high mortality in infants and in extreme old age operations should not be performed at the extremes of life except for pressing reasons. Mr. Langton discussed the various substances used for sutures, he himself preferring kangaroo tendon, and he had not had a single nstance of suppuration. When this did occur the formation of pus was comparatively slight and did not end in he suture coming bodily away as with silk. During he last five months he had performed 30 operations for the cure of hernia; 27 of these had healed by first ntention, while in three superficial suppuration occurred. The hospital records showed that operation for inguinal hernia was performed much more frequently in males than in females. As a possible explanation he mentioned that, according to the tables of the City of London Truss Society, out of 10,770 patients applying for trusses 9900 were males and only 870 were females. Moreover, there were other reasons for more frequent operations in males, such as entrance into public services, their more laborious work, and the constant risk of strangulation. The curative operation was one adapted for girls, in whom it was more simple than in males. Referring to the advisability of a truss after the operation he observed that no part of the treatment excited greater divergence of opinion than that. He himself always advised the use for a time of a supporting instrument, an opinion which was confirmed by experience, seeing that patients who applied for relief at the Truss Society owing to failure of the operation were those who had not worn any support. Of 138 cases 78 were advised not to wear a truss, while 60 were recommended to wear one for a limited period. In private practice he always recommended a truss. The operation was contra-indicated—(1) when the age was less than six years; (2) when there was co-existent organic disease; (3) when the hernia was so large that the abdominal cavity was unable to receive or retain under moderate pressure the extruded viscera (in such cases a palliative operation to retain the hernia aided by a truss might secure the patient from the chance of strangulation); (4) when the patients were very old; (5) when the tendino-muscular walls were weak and bulged for a considerable area on coughing; and (6) when septic peritonitis the result of strangulated hernia was present. Mr. Langton called attention to the almost insurmountable difficulties in the way of obtaining an estimate of the permanent results of the operation. Two years was the shortest period within which an opinion could be expressed. Statistics gave most conflicting results. The records of the City of London Truss Society showed that in the last six years 242 patients upon whom operations had been performed were treated for failure of the operation, from which it might be inferred that the total number of failures must be very considerable. In private practice the results were better known and were encouraging, 80 per cent. being successful at any rate for several years.

The PRESIDENT objected to the use of the term "radical cure," he himself always calling it the "operation for the radical cure." He often operated on children under six years of age and asked the Mr. Langton whether he would rigidly adhere to that limit under particular circumstances, as, for instance, in a child, aged three years with careless parents and hernia steadily increasing in size. For suturing he preferred a material which could be used for everything, such as silk, which, in his experience, did very well.

Mr. STANLEY BOYD observed that it would be very useful if surgeons could learn the ultimate results of their operations. He insisted on the importance of leaving the peritoneum smooth and tense, a point about which he was always very careful. He always applied torsion to the sac, but in one case the bladder was unfortunately included, with a fatal result. The next important structure was the transversalis fascia which should be closed by a continuous suture. He urged that the muscular arch should be restored as far as possible to the normal arrangement, thus materially assisting in preventing relapse. He used a fishing gut stitch to close the external oblique, removing any superfluous fat. For the last two years or more he had always operated by a flap, putting three knots on the fishgut suture, which was a continuous one, cutting off the ends close to the knot. Since he had done this he had not had an instance of a stitch reappearing on the surface. He agreed with Mr. Langton as to removing a piece of omentum. He confessed to having had some cases of suppuration and observed that there was no operation in which suppuration gave so much trouble. He thought the best plan was to give an anæsthetic and to take out some of the external stitches, passing through the internal oblique and transversalis and placing a tube in contact with the neck of the sac. He observed that it would be interesting to discuss the causes which underlay the greater frequency of femoral hernia in the female after puberty, especially as the sexual differences in the pelvis were as marked in a five months' fœtus as they were afterwards. He himself had fixed three years as the limit of age for operation in infants, that being the age at which children had acquired control over the bladder. Personally, he never recommended a patient to wear a truss unless the abdominal structures were unusually weak.

Mr. OSBORN asked Mr. Langton how long he thought patient ought to wear a truss after operation, a practice of which he approved, though patients were often disappointed, having looked forward to being enabled to dispense with its use after the operation. In young children a hernia would often disappear with a truss without any operation.

Mr. LANGTON, in reply, congratulated the President on the fact that his name did not appear on his list of London surgeons responsible for the failures to which he had alluded. In praising kangaroo tendon he did not wish to decry silk and fishing gut. He did not wish to lay down any hard-and-fast age limit. In his paper he had stipulated that if the child were well cared for he would not advise an operation. His experience at the Truss Society was that in most instances when a truss was applied to a child the rupture was not heard of again. He agreed that the limit of three years was not a bad one on the whole. He concurred in the importance of leaving the peritoneum tense and smooth. The inclusion of the bladder when torsion was applied to the sac was an accident which might happen to anyone, but he always opened the sac and passed his finger into the peritoneal cavity before applying torsion. (Mr. BOYD remarked that this was his invariable practice also.) Mr. Langton confirmed the remarks which had fallen from Mr. Boyd on the vital importance of arching over the fibres of the internal and oblique transversalis. In private practice he often ordered gymnastic exercises with the object of increasing the musculature and tension of the abdominal walls. He pointed out that femoral hernia occurred principally in women between puberty and the menopause, so that the influence of parturition was probably a factor in its production, though even during this period hernia in a pregnant woman was inguinal in 99 per cent. of the cases.

CLINICAL SOCIETY OF LONDON.

Hydatid Cysts in the Lung and the Liver removed by Operation.—Pancreatic Cyst treated by Drainage.—Removal of Malignant Tumour involving the Frontal Bone.—Erasion of the Ankle-joint.

A MEETING of this society was held on March 10th, the President, Mr. LANGTON, being in the chair.

Mr. H. BETHAM ROBINSON described a case of Hydatid Cysts in the Upper Lobe of the Right Lung and in the Liver both successfully removed. The patient was a boy, aged six years, who was admitted under his care into St. Thomas's Hospital on June 7th, 1898. There was nothing to note in the previous history except that for some time he had had a cough. When first noticed, three years before, the abdominal tumour was of the size of a marble and had gradually become larger without any pain. Up to his admission there had been no suspicion of the existence of a cyst in the lung. On examination he was found to have a firm rounded cystic swelling in the right hypochondriac and lumbar regions, reaching almost to the middle line and to the level of the umbilicus below. There was a rounded nodular projection on its inner side just under the umbilicus. The liver dulness began at the seventh rib in the nipple line and was continued down over the tumour. The whole swelling moved with respiration and it could be grasped between the hands placed in front and behind. The urine was slightly albuminous. The chest on examination showed that the upper part of the right side in front bulged. The percussion note was dull down to the third rib and dulness was also present high in the axilla and over the apex of the lung posteriorly. Over the dull area in front the breathing was tubular and vocal resonance increased, but behind all sounds were diminished. No crepitations were elicited on coughing. There was no elevation of temperature, so the physical signs were suggestive of a hydatid in the lung. On June 22nd the liver hydatid was operated on by an incision in the linea semilunaris. The liver came well below the costal margin and a cyst was seen springing from the inferior surface having the [illegible] on its upper surface malt and other alcoholic liquors. The merit of this work is that it does not deal with a difficult subject ponderously but in a way that should be clear and intelligible to the class of reader—namely, the medical student—for whom it is primarily intended.

Text-book of Medical and Pharmaceutical Chemistry. By ELIAS H. BARTLEY, B.S., M.D., Ph.G., Professor of Chemistry and Toxicology in Long Island College Hospital. Fifth edition. Revised and enlarged. London: H. Kimpton. 1899. Pp. 738.

IT is not easy to write for the benefit of the student of medicine a text-book within the bulk of that before us which will embrace not only pure chemistry but also physics, physiology, and pathology so far as these refer to chemistry in accordance with the requirements of his study. Yet the author has succeeded in stocking his book with most of the information of the kind indicated in a volume which is certainly not beyond the dimensions of a companion or manual. The first edition was published in 1885 and the present is the fifth edition, so that in a little over 12 years five issues have been demanded. This of course is evidence of the esteem in which the book is held. It is written essentially for medical students in the States during their attendance upon lectures. This in no way detracts from its use as a lecture companion in this country, as well as a book of reference. The author is evidently fully aware of the necessity of making the student feel how important a knowledge of chemistry is in connexion with medical study. He does not burden the reader with a host of irrelevant facts, but, on the other hand, amplifies those points in chemical structure and composition which border on chemistry and physiology and which will be found a help to clinical study. The work is divided into five parts, Part I. dealing with Chemical Physics, Heat, Light, and Electricity; Part II. with Theoretical Chemistry (the mathematics of the science); Part III. with Inorganic Chemistry; Part IV. with Organic Chemistry; and Part V. with Physiological and Clinical Chemistry. Quite apart from other sections the last might form a separate handbook on practical pathology and physiological chemistry since it is so serviceably and suitably treated. The official names of medicinal chemicals are given according to both the United States and the British Pharmacopœias. On the question of nomenclature the author has not employed the abbreviated method suggested by the American Association for the Advancement of Science. He adds, however, an appendix embodying the rules drawn up so that students may become acquainted with the proposed changes. We have found one or two trifling misprints in the book, as, for instance, HCl_2 on page 111 and "celluloes" for cellulose on page 607. The analytical processes described are good, but the author appears to ignore what is acknowledged to be the best method, as it is the most scientific, for the estimation of uric acid in urine—namely, that devised by Hopkins. In this process the uric acid is precipitated as acid ammonium salt with ammonium chloride, the pure salt so separated being titrated with standard permanganate in the presence of diluted sulphuric acid. The plan of the book in regard to the order in which the facts and theories of chemical science should be presented to students—namely, theory first and facts afterwards—is one which we are rather inclined to approve. The author has found space for a short description of the newly discovered elements, argon and helion. The style is clear and intelligible. As we have already indicated the author has dealt dexterously with a mass of facts retaining as far as possible only that important portion of the science which is of direct concern to the medical student. The requirements of the medical student are fully understood, which is not surprising since Dr. Bartley has had experience as a teacher in Long Island Hospital for a number of years.

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1. *Mad Humanity, its Forms, Apparent and Obscure.* By L. FORBES WINSLOW, M.B. Cantab., D.C.L. Oxon. London: C. A. Pearson, Limited. 1898. Pp. 450. Price 7*s*. 6*d*.
2. *Primer of Psychology and Mental Disease.* By C. B. BURR, M.D. Second Revised Edition. For Use in Training-schools for Attendants and Nurses. Philadelphia: F. A. Davies Company. 1898. Pp. 116. Price 2*s*.
3. *The Story of the Mind.* By Professor JAMES MARK BALDWIN. London: Geo. Newnes, Limited. Pp. 260. 1899. Price 1*s*.

THE above works are all popularly written for the information of general readers or for nurses and attendants on the insane, or for students commencing psychology. The first work portrays some of the commoner and more superficial appearances and symptoms of prevailing types of insanity with the aid of photographs of lunatics. Dr. Winslow believes that the increase of insanity in the past decade, as shown in official lunacy returns, must be real rather than apparent. Increased alcoholic intemperance is given the first place in the causation of mental disease. A sketchy account of "madhouses" and their past history and of the present condition of lunacy opens the work; curiously enough no account is given of the philanthropic work of Pinel in France or Tuke in England, who were pioneers in the "humane" movement of lunacy reform. The writer thinks that "in order to become a useful *physician* it is necessary to become a good *metaphysician*," and plentifully is the text mingled with discursive matter and digressions illustrative of this attitude; and then the author invokes poetry to his aid. There is much "padding" of this sort throughout the book. Sensational accounts are given of "strange lunacy cases" and of the "madness of genius." These are scarcely satisfactory from the critical and scientific standpoints. As examples of the "madness of genius" there are mentioned Samuel Johnson, Schiller ("love made Schiller mad" is the writer's dictum), Robert Burns (an example of dipsomania and melancholia), Shelley (a case of demonomania), &c. Even the Wizard of the North is not spared: the vigorous sane genius of the "Waverley Novels" and "Marmion" is made to illustrate this madness of genius in company with Shakespeare; and after moralising and poetising on the "mental degeneration of the human race" the book concludes with a characteristic poetical quotation from Bryant. The work cannot be commended to the physician, the alienist, or the general reader.

Dr. Burr's Primer has reached a second edition within four years. It gives an outline of psychology (27 pages), followed by brief and simple descriptions of the ordinary types of insanity (33 pages) such as come under the observation of asylum nurses and attendants. Then follows a concise but practical account of management of cases, under the headings of Feeding, Nursing and Personal Attendance; Exercise, Employment and Diversion; Sleep and Rest; Faulty Habits; Mechanical Restraint; and Guarding against Suicidal and Violent Impulses; with homely and good advice on these points. Some general suggestions and a useful index conclude this little work which may be recommended to nurses and attendants in public and private asylums.

Professor Baldwin's work is conceived in a true scientific spirit and is cast in a good mould. The "Story of the Mind" in its manifestations in the adult, but especially in the young, is well told. The author is well known for his valuable contributions to psychology in the special direction of "Mental Development in the Child and the Race." The scope of the work is, for a primer, ambitious. Under such headings as the Mind of the Animal, the Mind of the Child, &c., charming accounts and descriptions are given which while popular are also accurate and suggestive. Chapter V., on Child Psychology, may be read with profit and pleasure even by our psychologists and neurologists. Simple experiments in psychological time-measurement are given. The short chapters devoted to education and suggestion (including hypnotic conditions) in children and adults and the training of the mind in childhood may also furnish valuable *hints to teachers in our elementary schools.* Professor Baldwin's philosophy is cheery and optimistic; we have seldom read a more thoughtful and suggestive little production. It can be strongly commended to students of psychology, to the general reader, and to all who take an interest in the study, training, and mental upbringing of the young. The low price at which this little work is produced is remarkable and the general get-up of the book is a credit to the publishers.

LIBRARY TABLE.

A Code of Rules for the Prevention of Infectious and Contagious Diseases in Schools. Issued by the Medical Officers of Schools Association. Fourth edition. London: J. & A. Churchill.—We learn from the preface to this useful little book that eight years have elapsed since the publication of the last edition and owing to the many changes which have occurred and advances which have been made in sanitary and medical science the statements in the book have been thoroughly revised. Thus, the quarantine periods allotted to small-pox and scarlet fever have been reduced but special attention is drawn to the fact that disinfection of both the patient and his clothing must be carried out at *the commencement* of the quarantine period. In the case of diphtheria and ophthalmia it is pointed out that only a bacterioscopic examination will in many instances afford opportunity for definite diagnosis.

Bailey's Index to the Times. Published monthly. London: Eyre and Spottiswoode. January and February, 1899. Price 3*s.* per number.—This is one of the best and fullest indices which we have seen, the cross-indexing being particularly good. This point has not been so fully carried out in the February number as in the January issue owing to the necessity for saving space on account of the increased matter due to the meeting of Parliament. But even so the index is quite full enough for all practical purposes.

JOURNALS.

The Quarterly Journal of Microscopical Science. Edited by E. RAY LANKESTER, F.R.S., ADAM SEDGWICK, F.R.S., and W. F. R. WELDON, F.R.S. With 10 Lithographic Plates and Engravings on Wood. London: J and A. Churchill. February, 1899. Price 10*s.*—This part contains only two articles, the first by Arthur Dendy, D.Sc., Professor of Biology of Canterbury College, New Zealand, entitled Outlines of the Development of the Tuatara, Sphenodon (Hatteria) punctata (which occupies nearly the whole of the number), and the other by J. W. Jenkinson, M.A., an Abstract and Review of the Memoir by G. Hieronymus on Chlamydomyxa labyrinthuloides. Dr. Dendy was induced to study the development of the Tuatara by the examination of the parietal eye in some embryo Australian skinks which present an optic cup similar to that of the paired eyes. He has with the coöperation of Mr. Henaghan, the principal keeper on Stephens Island, secured a magnificent series of embryos the majority of which have been hardened in Kleinenberg's picric acid after removal from the egg and preserved in alcohol. The island where the Tuatara is found is densely covered with scrub of various kinds; the soil is good on the ridges and in the gullies it is of a light brown colour, largely composed of oxide of iron. Petrels and the lizards are both very numerous, and occupy the same hole, living together in peace. The breeding season commences in November on Stephens Island and each female lays about 10 eggs. The males are much more frequently met with than the females. Dr. Dendy thinks the eggs take about 12 months to develop and that they are laid in November. We must refer our readers to the original for the details of the development of this lizard. *They are there very completely given and the description is* illustrated by 10 plates with numerous drawings on each.

Archives Générales de Médecine.—This old-established journal now makes its appearance under the form of a new series commencing last January and concurrently with this alteration in the style of issue valuable improvements have been introduced. It is brought out on the 1st of each month in parts containing 128 pages, illustrated with plates and engravings, and forms at the end of the year two volumes of about 800 pages each. The editor is Dr. Émile Boix, 13, Rue des Saussaies, Paris. The publishers are MM. Asselin et Houzeau, 2, Place de l'École de Médecine. The annual subscription for the postal union is 25 francs. The articles in the March number are on Paralytic Vertigo (by Dr. F. Gerlier); on the Influence of the Nervous System in Diseases of the Skin (by Dr. E. Leredde); on Feebly-acting Chronic Localised Infections (by Dr. J. Brault); on a case of General Staphylococcus Infection (by Dr. J. Marty); on Vascular Lesions (by Dr. E. Coulon); and on the Anatomy of the Lung (by Dr. E. Rabaud). According to Dr. Gerlier paralytic vertigo especially attacks shepherds who milk cows and has only been discovered in Switzerland and Eastern France within the last 25 years, but it is endemic in Japan.

Revista Medica de S. Paulo.—In the January number of this Brazilian journal Dr. Adolpho Lutz continues his articles on the Bites and Stings of Various Insects; Dr. Pedro de Almeida Magalhães gives the first part of a paper on *Heart Murmurs in Beri-beri*, with an account of five cases; and Dr. Victor Godinho and Dr. Guilhermo Alvaro write on the Treatment and Prophylaxis of Tuberculosis.

La Grèce Médicale.—In the February number Dr. Timoleon Triantaphyllides of Batoum continues his articles on the Malarial Diathesis in the Caucasus; Dr. N. Saltas of Aivali describes a case of Progressive Pernicious Anæmia cured by subcutaneous injections of citrate of iron (4 c.c. of a 4 per cent. solution every second day for a period of 38 days); Dr. Mantzavinos of Laurium gives details of an incomprehensible case in which a girl, 18 years of age, made an apparently unfounded charge of rape against a man who had previously been requested to marry her and had refused to do so; there was recent laceration of her hymen and on examination a hen's egg was found in the vagina.

Rivista Universale di Medicina, Chirurgia e Scien Affini.—We have received the first two numbers of this new Italian monthly journal which, as its name indicates, makes a special feature of selections from contemporary periodicals. The original articles include a long paper, not yet concluded, by Dr. Enrico D'Anna on the Application of Electricity in Disorders of the Blood-vessels, such as phlebangiectasis, erectile *tumours*, varix, aneurysm, and angioma. The journal is conducted by Professor Vincenzo Morini and Dr. A. Bretschneider, consists of about 60 pages, and is published on the 15th of each month at 11, Via Firenze, Rome.

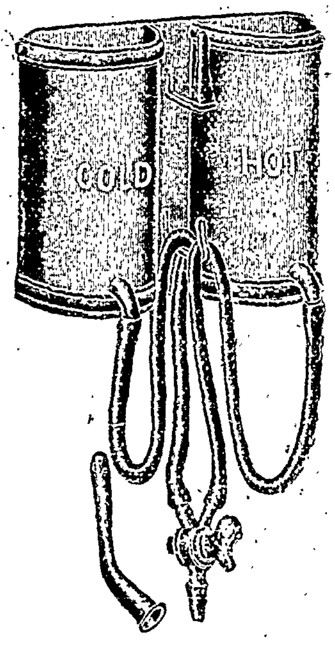
Clinica Ostetrica.—This journal, the first number of which appeared last January, is described in the sub-title as a review of Obstetrics, Gynæcology, and Children's Diseases. It is edited by Professor Felice La Torre of the University of Rome, contains 56 pages, and is published monthly by the firm of I Fratelli Capaccini, Porta Cavalleggeri, Rome. The original articles in the January number are on Tuberculous Peritonitis in Women (Professor F. Durante), on the Suckling of the Infant by its Mother (Dr. F. S. Rocchi), on the Etiology of Disorders of Digestion in the Infant (Professor L. Concatti), and on Insanity in Women during Pregnancy, Childbirth, and Suckling (Dr. B. Vespa).

Mercy and Truth.—In the March number Mr. Jukes contributes a further paper on his work at Dera Ghazi Khan in the Punjaub, together with a plan of the Maxwell Gordon Memorial Hospital. The principal illustration is a portrait of the late Bishop J. S. Hill of West Africa.

New Inventions.

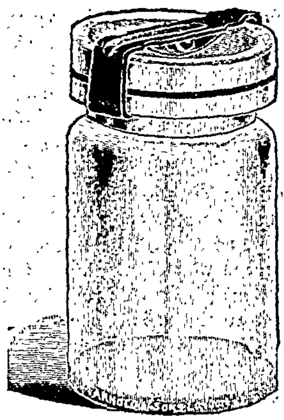
AN ALTERNATING DOUCHE.

VARIOUS contrivances have been suggested for the application of rapidly alternating heat and cold to different parts of the body. An instrument of this kind for the treatment of chronic prostatitis has been introduced by Dr. Scharff of Stettin under the name of the "thermopsychrophor" and it was briefly noticed in THE LANCET of Nov. 12th, 1898 (p. 1305). Another apparatus on a similar principle, devised by Dr. Heinrich Schmidt and intended for use in gynæcology, is represented in the annexed illustration. It consists of two irrigators joined together, one for hot and the other for cold water. To each is attached a long piece of india-rubber tubing, both of which meet in a three-way stopcock. A nozzle fitting on the stopcock is inserted into the vagina, and the hot douche is allowed to run for about half a minute, after which the tap is given a quarter of a turn and the hot is then succeeded by the cold douche, which is continued for a quarter of a minute. This should be done, using the hot and cold douches alternately, four or five times consecutively, and the process repeated several times daily. Of course, the water may be either medicated or not, at the discretion of the practitioner in attendance. Dr. Schmidt recommends that at the outset the temperature of the water should be 86° F. in the one irrigator and 64° in the other. He states that the apparatus may be obtained from any druggists' sundriesman or any dealer in surgical instruments.



THE SAFETY VALVE BOTTLE.

A SPECIMEN of a new pattern of bottle which has been introduced by Messrs. Arnold and Sons of West Smithfield has been sent to us for inspection. The construction of the "Safety Valve Bottle" is quite simple and will be readily understood from the accompanying illustration. The rubber ring which is outside the neck of the bottle is pressed down by the cover and held air-tight by the clamp. The clamp is easily removed by lifting the lever without injuring rubber, cover, or clamp and can be used over and over again. The bottle is made in different sizes and is very suitable for ligatures, sponges, ointments, powders, &c.



KANTHACK MEMORIAL FUND.

THE following is a list of the subscriptions which have been received for the Kanthack Memorial Fund, concerning which we have already written in THE LANCET. Dr. J. H. Drysdale, 25, Welbeck-street, W., is acting as honorary secretary.

	£	*s.*	*d.*
Mrs. L. Andrews	5	5	0
Mr. James Berry	3	3	0
Mr. Harrison Cripps ...	2	2	0
Dr. H. J. May	5	0	0
Dr. W. P. Herringham	2	2	0
Dr. F. E. Batten	1	1	0
Mr. E. W. Willett... ...	5	5	0
Dr. W. S. Church... ...	10	10	0
Mr. H. G. Read	1	1	0
Sir Thos. Smith, Bart....	10	10	0
Sir James Paget, Bart..	2	2	0
Dr. W. S. A. Griffith ...	10	0	0
Dr. F. W. Andrewes ...	5	5	0
Mr. D'Arcy Power ...	2	2	0
H. W. P.	5	5	0
Dr. H. M. Fletcher ...	10	10	0
Dr. A. E. Garrod	5	5	0
Mr. B. Furnivall	5	5	0
Mr. C. P. White (Leeds)	5	5	0
Mr. W. G. Heasman ...	5	5	0
Mr. C. A. Ballance ...	5	5	0
Mr. G. E. G. Metcalfe	1	1	0
Mr. H. Rundle	2	2	0
Dr. G. Saunders, C.B.	2	2	0
Mr. D. R. P. Stephens	1	1	0
Anonymous	10	0	0
Dr. L. Thorne Thorne	1	0	0
Mr. R. F. Jowers	2	2	0
Dr. C. P. Handson ...	1	1	0
Mr. F. D. Bennett ...	1	1	0
Dr. E. W. Roughton ...	1	1	0
Dr. A. McC. Weir ...	1	1	0
Dr. W. D. Stone	1	1	0
Mr. G. N. Stephen ...	1	1	0
Surgeon-Major-General W. R. Rice	10	10	0
Mr. H. A. Ballance ...	1	1	0
Dr. L. G. Glover	2	2	0
Dr. J. A. Ormerod ...	3	3	0
Sir Felix Semon	10	10	0
W. S.	1	1	0
Mr. W. P. Digby	1	1	0
Dr. S. J. Ross...	1	0	0
Dr. W. H. Maidlow ...	0	10	6
Surgeon W. J. Codrington, R.N.	0	10	0
Mr. W. G. Clark	10	10	0
Dr. H. J. Capon	1	1	0
Mr. H. B. Maingay ...	1	1	0
Dr. H. Willoughby Gardner	3	3	0
Dr. T. S. Stevenson ...	2	2	0
Mr. H. Huxley	5	0	0
Dr. G. R. Murray... ...	2	2	0
Mr. H. T. Butlin, D.C.L.	10	10	0
Dr. F. de Havilland Hall	3	3	0
Mr. J. Westlake, Q.C....	5	0	0
Dr. J. A. Hayward ...	5	5	0
Dr. S. E. Wynter... ...	2	2	0
Dr. J. H. Lightbody ...	2	2	0
Dr. G. *H. R. Holden* ...	1	1	0
Dr. A. Kuttner (Berlin)	10	0	0
Dr. F. P. Weber	2	2	0
Dr. T. M. Legge	5	0	0
Dr. T. Lauder Brunton, F.R.S.	10	10	0
Dr. G. O. Taylor	1	1	0
Dr. W. Langdon Brown	1	1	0
Dr. Sidney Martin, F.R.S.	3	3	0
Dr. C. Butler...	5	5	0
Dr. A. W. Blackwell ...	0	10	6
Dr. Lovell Drage	5	0	0
The Hon. G. Scott ...	2	2	0
Captain H. A. Berryman, R.A.M.C.	2	2	0
Dr. T. J. Horder	1	0	0
Total...	£267	10	0

THE BRISTOL ROYAL HOSPITAL FOR CHILDREN AND WOMEN.—The thirty-third annual meeting of this institution was held on March 10th under the presidency of the Mayor. The report stated that during 1898 3143 patients had been treated, and of these 636 children and 39 women had been admitted as in-patients. The financial statement showed that the total expenditure, which includes the Convalescent Home in connexion with the hospital at Weston-super-Mare, amounted to £4048. The receipts were £2900. The accumulated deficit of the last four years now amounted to £2771.

THE LANCET.

LONDON: SATURDAY, MARCH 18, 1899.

THE questions raised by the deputation from the Council of the Poor-law Medical Officers' Association recently received by Dr. FARQUHARSON, M.P., afford food for reflection to the framers of statutes, to guardians of the poor, to the medical profession in general, and to the Poor-law medical service in particular. The principal object of the deputation was to draw the attention of the legislature to certain results which have ensued from the operation of the Poor-law Superannuation Act (1896) to the serious detriment of the Poor-law Medical Service. It is sufficiently heart-breaking work to labour amongst the poorest of the poor who need food more than medicine; but if we add to this the lowest of possible salaries and the most critical of masters the lot of the parish medical officer is certainly not an attractive one. As regards the salary, it is fixed at a figure considerably lower than any payment made for similar work and wholly out of proportion to the duties performed or the trouble and responsibility involved in their execution. In many of the eastern districts of London the work engages nearly the whole time of one assistant. It not infrequently happens that for £30 or £40 a year a medical man is required to attend several times a week at some appointed place and be at the beck and call, at all hours of the day and the night, of the relieving officer and the poor. And woe betide the hard-working medical officer who thinks at 9 P.M. perhaps that he will have his dinner before he attends to a summons which might probably have been equally well sent in the morning.

These things may well afford food for reflection to the whole profession, for it is an ominous sign of the times that there is no dearth of candidates for these posts. But if a man be asked why he applies for a position like this he probably says, "As an introduction to practice." Another, if he be asked why he retains a post of this kind replies, "To prevent another medical man from diminishing my meagre livelihood by setting up in the neighbourhood." The guardians are probably not aware of these considerations, but, taking full advantage of them, they adopt a "market value" line of argument and question the need of giving a higher salary when candidates can be procured at a lower one. These gentlemen forget that by supplying really competent medical aid for the poor they shorten the time during which the poor remain on the rates, and that the greatest inducement to really efficient service is to be found in the contented mind of an official satisfied with his lot and his remuneration.

Until lately there was one redeeming feature in the conditions of the Poor-law medical service—namely, the small pension to which a medical practitioner who had been for more than 10 years in the service could look forward in his declining years. It is true that before the enactment of the Poor-law Officers' Superannuation Act this pension was given at the option of the guardians who happened to be in office at the time of his retirement, but the medical officer could generally rely on a just consideration at their hands if his relations with them were fairly amicable. However, it was hoped that the passing of this statute would improve matters in this respect, by giving the medical man a right to a pension which before was optional. The amount to which he is entitled under this statute is based on the length of his service—one sixtieth of his average salary and emoluments for each year of service, whether under the same or a different board of guardians. In order to meet this charge on the rates a certain percentage is deducted compulsorily from each officer's salary at the time when it is paid—usually every quarter.

This statute was very carefully drawn up and its framers were confident of its beneficent effects for all concerned. However, in actual practice it is found to fail in the very direction where it was expected to accomplish most—at least, so far as the district medical officers are concerned—owing to the action of certain boards of guardians. So far is this the case that unless something in the way of amendment of the law is speedily introduced a very grave injustice will be done to a very deserving and already underpaid body of men, and serious harm to the service generally.

As regards the financial basis contemplated by the Act—which it may be remarked in passing applies to all Poor-law officers, medical and non-medical alike—the deductions from all officers' salaries do not go to form a special fund, but are entered in the debtor and creditor account of the parish to which the official belongs, any pensions payable at the time appearing on the other side. It was contemplated that in the long run the one would balance the other. But an officer is entitled to claim as a basis of his pension any years of service previously spent in other parishes, and the guardians with whom an official is serving at the time of his retirement, who thereafter pay the pension, seem to imagine that they are paying a charge which properly belongs to another board At any rate, when the election of a medical officer is in question the guardians in many instances have, it is alleged, taken this question of the possibility of superannuation into consideration in a manner which seems to us to be unjustifiable—a manner which was not contemplated in the framing of the Act, and one which is certainly not conducive to the efficiency of the Poor-law medical service. It is alleged, for instance, that certain boards have selected younger candidates who have not previously held office under the Poor-law and who could not therefore claim such large pensions as those who had had previous service. Now, other things being equal, it is certainly not conducive to the efficiency of the Poor-law to have inexperienced and untried officials. Medical work in connexion with the Poor-law requires considerable experience for its efficient performance. Not that medical science itself is different, but, to mention one aspect alone, the detection of, and dealing with, malingerers, to decide exactly how much of a person's illness is assumed, and precisely what amount of work he or she is fit for, requires not only a skilled [illegible] intelligent, but also problems form part of the daily work of the Poor-law medical officer.

But there is yet another way in which the Superannuation Act seems likely to jeopardise the best interests of the service and to fall most unjustly on the present holders of office, especially in certain rural districts. When a Poor-law medical officer does not reside within his district it is the custom that his appointment shall only be for a limited time—usually one or three years—at the end of which it has hitherto been customary for him to be re-elected as a matter of course. Now, undoubtedly it is more convenient, other things being equal, that the medical officer should reside inside, or within easy access of, his district; but in certain places, especially in country parishes, this is not possible or expedient. A large number of district Poor-law medical officers have held office under these conditions for many years and the arrangement has worked satisfactorily for all concerned. Their re-election each year has been merely a matter of form. But since the introduction of the new statute it has been alleged that in several such instances where a medical man has had a long and blameless record, but where he was approaching the age at which his pension would become due—namely, 60—his re-election has not taken place, and consequently he has lost all chance of his pension. These posts are nearly always held by men settled in practice who cannot, therefore, seek office elsewhere, even if there were a chance of their election, which, as we have just seen, is very slender. The extreme injustice of such a proceeding is obvious. Very often special arrangements have been made by the medical officer and a special assistant has been engaged for the work; moreover, compulsory deductions have been made from the officer's salary in view of the pension to which he would be entitled.

How the most carefully framed statutes may fail in actual practice is a fact well known to legislators. But we venture to think that a greater flaw than this has rarely been revealed. The remedy lies in two directions. In the first place, the deductions from salaries in view of pension from all parishes should go to form a common fund. In this way one parish could not feel that it was paying a pension which really belonged to another. Secondly, the limitation of office to a short period should be abolished. If a medical officer is eligible both in qualification and residence to discharge the duties for one year there seems to be no adequate reason why he should not be eligible to discharge them for a longer time. In general terms a very large proportion of the problems connected with the administration of the Poor-law are of a medical nature, and certainly it is a short-sighted policy which selects as a medical adviser to a board of guardians a young medical man wholly inexperienced in such matters, or which constantly changes such adviser as soon as he is beginning to learn his work. Such a state of matters as we have here depicted is detrimental to the best interests of the Poor-law service and unjust to the individual. It certainly requires the attention of the legislature without delay.

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IT is now nearly 10 years since the disease known as "influenza" appeared in epidemic form in this country, after an interval of 43 years. There are difficulties in ascertaining the exact chronological order in which different parts of the country were attacked with the complaint, for although cases were not actually recognised and reported until towards the end of December, 1889, yet subsequent reflection convinced many medical men that they had met with cases considerably anterior to that time. Since that epidemic the community has been rarely, if ever, entirely free from the disease and recrudescences have from time to time occurred, although they have not assumed such proportions as were reached in the early part of 1890. It forms an interesting study, although not a consoling one, to look back over the 10 years in order to ascertain how far medical science has advanced as regards the recognition, treatment, and prophylaxis of the malady.

Dr. SISLEY's book on "Epidemic Influenza" and the able report presented to the Local Government Board on the epidemic of 1889-90 by Dr. H. F. PARSONS give an excellent *résumé* of the information which had been collected up to that time. The fact that this epidemic was the first that had visited this country since the establishment of a central health authority renders such a report particularly interesting. The first point which strikes us is that the type of the disease has undergone constant alterations, and the varieties of symptoms which present themselves are so numerous that it is difficult to recognise them as forming instances of the same disease, the clinical course of which during the epidemic just referred to was so characteristic. Experience has shown that the complications are so diverse that their importance outrides that of the original malady, and indeed they may be even mistaken for it and thus the difficulties of diagnosis may be manifestly increased. Various hypotheses were suggested as to the etiology of epidemic influenza, such as the theory that it was due to climatic conditions or to some "aerial poison" or "miasm"; other observers contended that it was zoogenous in origin—that is to say, derived from "equine influenza," or that it was carried by migratory birds; another suggestion was that the disease had a dietetic origin, being disseminated by means of Russian oats. These theories have, however, one by one been discarded and it is now generally acknowledged that the bacillus discovered by Dr. PFEIFFER in 1892 is the causal factor and, as we have already pointed out,[1] Dr. FINKLER maintains that the presence of this microbe in the sputum should form an essential part of the diagnosis in doubtful cases.

It is frequently difficult to distinguish between a "febrile catarrh" and an attack of influenza; both have many symptoms in common, although the mode of onset and the danger of complications differ considerably. Unless care is taken in the diagnosis needless alarm is often created. If therefore means for the detection of Pfeiffer's bacillus can be easily carried out a valuable help in this respect is at hand. There is an article on this subject in the monthly report (February) from the Department of Health, of the City of Chicago. After quoting from the *Medical Age* to the effect that influenza seems to have a strange attraction for some people, and every febrile catarrh of whatever kind is called "la grippe"—"gastric cases, headaches, sore-throat, coryzas, are all grippe"—the results are given of some experiments carried out by Dr. F. E. WYNEKOOP, First Assistant Bacteriologist of the department. These results only take the form of a "preliminary report," but Dr. WYNEKOOP has demonstrated that after the observer has become familiar with the appearance of the Pfeiffer bacillus under the microscope it may be readily identified in the sputum and mucus of a patient suffering from influenza by direct examination without awaiting the result of cultivation. We have before expressed our opinion on this proposal and trust that further investigation will be made in order to test the clinical value of such bacteriological examinations.

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[1] THE LANCET, Jan. 14th, 1899, p. 103.

Dr. OSLER, following the opinions of many competent observers, states that the respiratory system is peculiarly likely to be involved, whilst others, although agreeing with this statement, believe that the main force of the disease is expended on the nervous system and much has been written on the "neuro-pathology" of influenza. Dr. GOODHART[2] draws attention to the fact that there is no record in former times of the long series of nerve disorders following influenza with which we are now but too familiar and which will be found by our successors when in the stress of epidemics yet to come they study, as we do to-day, the recorded experience of the past. It is undoubtedly true that influenza has shattered the nervous systems of a large number of its victims, in some cases permanently, in many for several years after it has run its course. These subsequent events may lead to the diagnosis of influenza after the event, the primary attack being so vague that no conclusion could be arrived at until the train of nervous symptoms suggested the true nature of the original disease.

Whilst we may claim to have made considerable advances during the past 10 years in the knowledge of the etiology and pathology of influenza we can show but little improvement in our methods of treatment and prophylaxis. This can cause no surprise, as the disease is probably transmitted in a similar manner to pulmonary tuberculosis through the mucus and secretions derived from the respiratory tract, which Dr. PFEIFFER has shown is the home of the active germ. That being so, prophylactic measures are accompanied by the same difficulties as is the case with regard to "consumption." Most risk is therefore run in ill-ventilated buildings, and although the healthy may be attacked, yet any mode of life which tends to lower the vital powers at the same time renders the individual more prone to infection. Statistics testify to the frequency of the disease and to its heavy mortality, particularly in the alcoholic and also in the over-worked and aged.

As respects treatment no specific has yet been discovered and much the same measures are now adopted as in the epidemic of 1890 and even in earlier outbreaks. In THE LANCET of Jan. 11th, 1890, commenting on the means which might be adopted we said: "The lines originally laid down by Dr. PEACOCK do not appear to have been very materially modified by anything that has since been written, and they resolved themselves mainly into directions for symptomatic treatment. He recommended for the simple form the use of diaphoretics, anodynes, stimulants, and tonics, and although the list of remedies falling into these groups has of late years been largely increased the main principles remain the same." These words hold good of our treatment during the present epidemic; the experience of over nine years, since the above was written, has simply corroborated Dr. PEACOCK's statements. Complications must of course be treated as they arise, but the most difficult to control are probably the form of pneumonia occurring in connexion with influenza, which is usually of a particularly virulent character, and the nervous symptoms, which are also singularly rebellious to all therapeutic measures.

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THE answer given by Mr. CHAPLIN in the House of Commons, in response to a question by Mr. CHANNING on Feb. 9th as to what action the Government intended to take on the recommendations of the Royal Commission on Tuberculosis so as to prevent the sale of milk from tuberculous cows prepared us for the issue of regulations by the Local Government Board under the Dairies, Cowsheds, and Milkshops *Order of 1885. This issue* has been accompanied by a circular of advice and instructions bearing upon the question of the seizure and control of meat of tuberculous animals placed on sale as human food; and a separate order has also been issued declaring that any disease of the udder certified by a veterinary surgeon to be tuberculous in character shall be deemed to be a "disease" for the purposes of the Dairies and Cowsheds Order. The issue of these several documents is of distinct importance. In the first place, it makes the fact quite clear that the Government have no present intention of resorting to fresh legislation on the subject of tuberculosis, notwithstanding that the recommendations which were made by the second Royal Commission on Tuberculosis and which were held to be essential to the proper control of that disease in so far as its communication to man is concerned were stated to be *dependent on new legislation. From several statements* which have been made it would almost seem that this disinclination to take new statutory powers has some connexion with an alleged uncertainty as to the effect of tuberculin when used for diagnostic purposes in the bovine *animal*, but as the use of this preparation has only a remote concern with any measures necessary for the purposes of human health we must express our great regret that a number of measures which would tend to control tuberculosis in man have been neglected owing to a consideration which is altogether of a secondary character. And even as regards the regulations and the Order issued we could have wished for action which showed greater concern for the protection of public health than we find in these documents, but at the same time we are glad to note that they indicate a distinct step in advance, and we trust that before long the intelligence of the country will demand more advanced measures in the direction of precaution and of the prevention of disease than are possible in the present state of [illegible] unless the vaccination officer

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that the inclusion efeated. Fortunately the Act of 1898
diseases referred for the vaccination officer to procure the
is a valuable ste sistance and we may therefore rest assured
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[2] Professor Clifford Allbutt's System of Medicine, vol. i., p. 697.

that in the future the objections raised by the anti-vaccinationists' counsel will not be allowed to hoodwink the magistrates. Law is in no sense an accurate science and it is altogether impossible to predict what any given exponent or administrator of it may at any given time elect to interpret into any given section of the Vaccination Acts. Although under existing arrangements evasions of justice should be far less frequent than heretofore, it is very essential that the vaccination officer shall see that each of the steps taken in relation to any given child shall be in exact accord with the Acts and the Vaccination Order. Each vaccination officer throughout the country should take care that he is provided under Article 12 of the Vaccination Order, 1898, with a copy of the resolution appointing him to office. With this in his possession he will be in a position to take such proceedings as he deems desirable. He should, however, be sure of his ground in every case and he should not hesitate to seek legal assistance whenever he considers it wise thus to fortify himself. An average vaccination officer is not quite a match for a clever barrister, unless, that is to say, he has had extensive experience in conducting vaccination prosecutions; and it may be well, in the first few cases at least, for the vaccination officer to avail himself of his powers to procure expert assistance. It is, too, incumbent upon clerks to boards of guardians to make themselves thoroughly familiar with the terms of the new Vaccination Order and to follow all the decisions which may be given with regard to it. And, lastly, the public vaccinator must do his share towards the successful issue of any proceedings by conducting each step of his action with regard to children whose names are forwarded to him by the vaccination officer in exact accordance with the terms of his instructions. Unless he does this and, moreover, keeps an accurate record of his dates, &c., he is not following out the terms of his contract or assisting the cause of vaccination as he should do.

THE INFECTIOUSNESS OF PHTHISIS.

AT the Folkestone County Court on Tuesday last a case of direct interest to the medical profession as well as to hotel-keepers and their patrons the public was heard before Sir William L. Selfe. It was a claim by the Leas Hotel Company against the executors of Mr. Radclyffe Radclyffe-Hall, a gentleman who died in the hotel in October last. It appeared that the deceased went to Folkestone from Cannes and stayed at the Leas Hotel for a few days on his return to this country. He was in very weak health and the late Dr. C. E. Fitz-Gerald saw him on the day before that on which he died and subsequently gave a certificate that death was due to tuberculosis. He informed the manager of the hotel that the disease was infectious, although it was not included in the list of notifiable diseases, and advised that the furniture should be removed, the bedding destroyed, and the room disinfected. The estimated cost of this altogether was £19 13s. 6d. and a claim for this amount was made against the executors who disputed liability. It was stated that the articles of furniture had not been destroyed, the wall-paper had not been removed, and the woodwork had not been repainted. But the room had been disinfected and shut up for a month and afterwards left to air for a fortnight. The plaintiffs therefore amended the claim and asked to be awarded the sum for the rent of the room during the time when it was not occupied. Mr. Yunge-Bateman, the medical officer of health of the borough, gave evidence that tuberculosis was now regarded by the medical profession as infectious and said that they were trying to get it recognised as such. In his opinion all that Dr. Fitz-Gerald had recommended was essential in the interest of the public, as it would be unsafe for any other person to occupy the room until it had been thoroughly purified. A long legal argument ensued as to a customer at an hotel being liable to pay anything under such circumstances, and it was also contended on behalf of the defendants that the cause of death had been wrongly given by Dr. Fitz-Gerald, inasmuch as the deceased had been suffering for years from a bladder complaint and had undergone a serious operation two years ago for that complaint and his illness was simply general debility consequent upon that operation. He had been attended by several eminent physicians and it had never been said that he had chest disease, although one had advised him to be careful of his chest. The solicitor for the plaintiffs and the barrister for the defendants were unable to cite any case as a precedent and His Honour said that the case was quite new in his experience. He held, however, that hotel-keepers were entitled to compensation under such circumstances and that he could not go behind the certificate of the cause of death given by the medical man who attended the deceased in his last illness. It was not shown that the Leas Hotel Company had really lost anything by being unable to let the room as it was closed during the dull season, and it was admitted that there were several other unoccupied rooms in the hotel. The only sum which they were legally entitled to recover, in his judgment, was the 15s. paid for disinfecting the room and he gave judgment for that amount. Counsel for the defendants then asked for leave to appeal, contending that it raised a point of very great importance to hotel patrons, but His Honour declined to grant leave as the amount was so small. If the application was pressed he should give costs against the defendants on the higher scale. The judgment was therefore acquiesced in.

"CRAW-CRAW" AND ITS TREATMENT.

A RECENT number of the *Archives de Médecine Navale* contains a short paper by Dr. J. Emily, a French naval surgeon, on the nature and treatment of a complaint which is known in Eastern Africa as the craw-craw. This account, we are informed in an editorial note, was despatched from Fashoda on Dec. 8th, 1898, by its author who is a member of the Marchand expedition. Craw-craw, says Dr. Emily, is an affection of the skin which is well known to all medical men who have visited the French Congo or the Upper Ubangi district. Its appearance and the highly characteristic course which it pursues constitute it a distinct morbid entity. Commencing as a small reddish-brown macula, situated usually on the lower extremities but also on the dorsal aspect of the hands and elsewhere, the disease from the first is attended by an intolerable itchiness which forces the sufferer to scratch himself violently. A craw-craw ulcer when fully established is encircled by a zone of inflamed skin of the colour of wine lees and may attain to the dimensions of a five-franc piece. It consists in an excavation with nearly perpendicular sides and a granulating bottom whence thickish pus exudes. When exposed to the air this secretion hardens, covering the surface of the sore with a dense impermeable pellicle beneath which the pathogenic agents, whether specific or otherwise, doubtless pullulate freely. Craw-craw has been ascribed to the gonococcus, but Dr. Emily is by no means sure that this view is correct and he hopes on a future occasion to be able to settle with certainty the identity of the microbe. Be this as it may, there can be no doubt regarding the highly contagious character of the affection. In the opinion of several observers mosquitoes and chigoes are to be held responsible for implanting the germs of craw-craw in the human subject, but this view does not commend itself to Dr. Emily. The chigoe abounds on the Gaboon littoral and infests the route between Loango and Brazzaville. The inhabitants, natives as well as Europeans, are infested by mosquitoes, while their feet and sometimes their hands are ruined by the chigoe, but Dr. Emily never met with a case of craw craw among the blacks of the Lower Congo. The wounds made by the insect pests and enlarged by scratching may serve as ports of entry to the specific germs, but apparently the latter do not reside in the irritant liquid which is injected beneath the epidermis. Craw craw ulcers are invariably multiple and may occur all over the body. Dr. Spire of Ubangi has met with them on the penis where they simulated chancres, the resemblance being accentuated by inguinal adenopathy. The treatment of craw-craw has hitherto been most unsatisfactory, apparent cure after lengthened medication being almost always followed by relapse So inveterate, indeed, did Dr. Emily find the complaint that in spite of all his efforts several members of the mission who had acquired craw craw in Western Africa were still suffering therefrom on arrival in the Nile basin. At length it occurred to him to make a trial of boric acid and *as far as* he has gone the results have been well nigh magical But the drug must be given a fair chance of coping with the germs at close *quarters in the following manner.* All hair in the vicinity of the ulcer having been removed the next procedure consists in an energetic washing with soap, brush, and a corrosive sublimate solution This portion of the toilet over, the craw-craw itself is next cleansed by means of a similar solution and tepid boiled water. The base of the ulcer thus exposed will be found to be granular, tortuous, and purulent Dr Emily then proceeds to swab out the cavity with well squeezed plugs of lint, nor is he content until the pus is replaced by sanguineous oozing As may be supposed this stage of the process is a painful one, but it does not last very *long and is absolutely essential* Pure pulverised boric acid applied freely, boricated vaseline, and antiseptic bandaging complete the operation The pain quickly disappears, being followed by a *sensation of* great comfort and when after five or six days the appliances are removed the craw craw will be found to be completely cicatrised Dr. Emily gives the details of four cases which were treated in this way with the utmost success

"CUBITAL ANALGESIA" IN THE INSANE. A VALUABLE DIAGNOSTIC SIGN

FIVE years ago an Italian observer (Biernacki, in *Neurologisches Centralblatt*, 1894) noted that the peculiar painful feeling with tingling felt along the course of the ulnar nerve and the slight muscular contraction in the little finger and hypothenar eminence, following upon pressing and nipping the ulnar nerve trunk at the back of the elbow, were absent in *a considerable number of patients suffering* from locomotor ataxy. In the following year Cramer noted that this "cubital analgesia" was very common among general paralytics in lunatic asylums, reaching as high as 75 *per cent* The attention of alienists being thus directed to the subject, various observations were made on the frequency of this sign in lunatics other than general paralytics to establish its value, if any, in differential diagnosis Mundel stated[1] that from *his observations at the Berlin Polyclinic* on tabes, general paralysis, and other neuroses he considered that this sign was of great importance In the present year Dr P. Keraval,[2] superintendent of the asylum at Armentières in France, has published the results of a systematic examination of 626 asylum patients—viz , 84 general paralytics and 542 other lunatics (melancholiacs, dements, imbeciles and degenerates, idiots, maniacs, alcoholics, &c)—carried out by *himself and his assistant,* Dr. Laurent, with the *following* results —Of 18 general paralytics at an early stage 10 showed "cubital analgesia," two were doubtful, and six were normal, of 30 at a medium stage 12 showed "cubital analgesia," two were doubtful, and 16 were normal; and of 36 at an advanced stage 22 showed "cubital analgesia," four were doubtful, and 10 were normal. Thus of 84 general paralytics at various stages 44 showed "cubital analgesia," eight were doubtful, and 32 were normal Of the other lunatics who exhibited the symptom the ratios were: dements, 87 per cent; idiots, 85 per cent; degenerates, 40 per cent; melancholiacs, 32 per cent; chronic delusional cases, 30 per cent; maniacs, 19 per cent; alcoholics, 10 per cent.; while epileptics showed normal feeling in all the cases—20 in number were examined. It will thus be seen *among lunatics* that excluding the cases of idiots and dements—i e , all cases of profound arrest of growth or degeneration of the brain—the greatest percentage *of patients who exhibit this sign is* composed of general paralytics, of whom 52½ per cent have cubital or ulnar analgesia This symptom must therefore, the writers think, take rank *next only to the already known* physical signs—viz , inequality of the pupils with loss of reaction to light and tremors of the tongue and lips, with indistinctness or hesitancy of articulation — which characterise general paralysis of the insane even in its early stages.

MYELOPATHIC ALBUMOSURIA.

AT the meeting of the Royal Medical and Chirurgical Society on March 14th Dr Bradshaw and Dr Warrington of Liverpool made a most interesting communication on a rare case which clinically was at first characterised by the persistent occurrence of albumose in the urine which was present till death Shortly *before death indications of softening* of the ribs and the sternum appeared and at the necropsy it was found that the softening of bones was due to multiple *myelomata* The association of albumosuria and multiple tumours of bone has been recorded previously, the first case being by the late Dr Bence Jones in 1847, but in all of these the bone lesions were only discovered after death Dr Bradshaw and Dr Warrington's case appears to be the first in which the diagnosis was made during life The name of "myelopathic albumosuria" which they propose to give to the condition is an appropriate and convenient one and will *distinguish it from other forms of albumosuria* which are often associated with granular contracted kidney and with diseases attended by much formation of pus such as empyema

THE CONSERVANCY OF THE RIVER LEE.

THE condition of the River Lee, as our readers are aware, has for a long time past been in a most unsatisfactory state. In the articles which we published on the metropolitan water supply we called attention to the condition of the intercepting drain which belongs to the East London Water*works Company* and was made *for the purpose of lessening* the impurity of the river at the intakes of the company We pointed out that the effluents which passed into the drain from the sewage farms of two of the local authorities were in a disgraceful state The Conservators have certainly not exercised proper vigilance in this matter. The barge owners who use the Lee Navigation have also just cause for complaint as to the condition into which the waterway has been allowed to pass When a *public* body neglects its duties it is sometimes best radically to change its constitution This idea was strongly held by the London County Council who in a Bill which they introduced into Parliament this year proposed to entirely alter the constitu*tion of the present* Lee *Conservancy* Board. The proposition of the London County Council was that the board should consist of 14 members, of whom seven should be appointed by themselves, and that the counties of Bedfordshire, Hertfordshire, and Essex, the corporations of West Ham and of London, the council of the administrative county of Midd water companies should elect one representative each. The proposition that the London County Council should have the appointment of seven members and that the county of Hertfordshire should have only one member seems on the face of it absurd, and possibly the London County Council made this quaint proposition simply with a view of showing that "something should be done." This effect at any rate has been produced. The London County Council Bill came up for second reading in the House of Commons on Thursday, March 9th, when Mr. Cecil, member for the Hertford division of Hertfordshire, announced that the Lee Conservancy Board had passed a resolution to the effect that "if the clauses relating to the Lee Conservancy be withdrawn from the present Bill the Lee Conservancy Board will themselves promote a Bill in the next or following session of Parliament for the reconstitution of the Board in such manner as to make it representative of all the interests of the river Lee." Mr. Cecil announced that the Hertfordshire and Bedfordshire members of Parliament had come to the decision that it would be well for the Lee Conservancy Board to promote a Bill on the lines indicated and that they would be ready to do so if the London County Council dropped that part of their Bill referring to the Conservancy of the Lee. Mr. James Stuart, member for Shoreditch, who was responsible for the Bill, withdrew the clause which had reference to the Lee on the understanding that a Bill will shortly be promoted by the Lee Conservancy Board. The purity of the Lee water and the navigation of the river are of very great importance and we are of opinion that they should be dealt with by the Government. The enormous amount of good which has been effected by the Thames Conservators during the last few years has shown what can be done in the way of river purification. We are of opinion that the best solution for the present difficulties concerning the Lee would be to place it under the care of the existing Thames Conservancy Board. The present Conservators and their officers have now had considerable experience as to the methods by which improvements can be brought about in the Thames and its chief tributaries, and it would be a great advantage that the duty of conserving the Lee should be placed in strong and experienced hands. We do not think that any exception could reasonably be taken to placing the Lee under the Thames Conservators if a small number of members representing the interests of the counties concerned were added to the Thames Conservancy Board. It would be a great mistake to increase the numbers of the Board so as to make it an unwieldy body, but we think that all interests would be properly represented by a very small addition to the existing Board.

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[1] Psychiatric Congress at Berlin 1895.

[2] Archives de Neurologie, vol vii No 38 February, 1899.

ANNIVERSARY DINNER OF THE MEDICAL SOCIETY OF LONDON.

THE 126th anniversary of the founding of the Medical Society of London was celebrated on March 8th by the Fellows and their guests dining at the Hotel Métropole, the President, Mr. Edmund Owen, being in the chair. There was a record attendance, 168 sitting down to dinner, and the well-known hospitality of the society on these occasions had been exercised to an unusual extent. Among the guests were Sir Samuel Wilks, Sir William Mac Cormac, Sir Henry F. Norbury, and the Presidents of practically all the medical societies meeting in London. After the usual loyal toasts had been duly honoured, Mr. Owen proposed the toast of "The Medical Society of London" in an eloquent and humorous speech and in welcoming the guests, informed them that social relaxation in the past had played an important part in the history of the society. He gave a graphic account[1] of a quarrel and schism in the society in 1774, the year after its foundation, which led to the resignation of the President and the secretaries, and of the way in which Lettsom smoothed over the difficulties and led to the return to the society of the revolted members. Lettsom cemented this reunion by regaling the Fellows in 1775 on a turtle which had been presented to him. The ancients believed that the earth rested on the back of a tortoise and Mr. Owen believed that the prosperity of the society was "based on the carapace of that turtle." Following the toast of the evening came the presentation of the Fothergillian Gold Medal to Dr. S. Monckton Copeman for his researches on glycerinated calf lymph which had led to such excellent results. Dr. Copeman was very loudly cheered. Dr. West proposed the toast of the visitors to which Sir Samuel Wilks, Bart., and Sir William Mac Cormac, Bart., K.C.V.O., responded. The health of the President was proposed by Dr. Ord who referred not only to Mr. Owen's fulfilment of his office as President, but to his personal qualities which would have ensured him distinction whatever profession he had adopted. The toast was received with musical honours and Mr. Owen replied. An excellent musical programme was arranged by Dr. Robert Maguire which added greatly to the enjoyment of the evening and included pianoforte solos by Mr. Plimmer, a violoncello solo by Mr. Ronald Carter, and two songs by Mr. Foster Ferguson which were loudly encored.

SUGAR "AS A MILITARY ALIMENT."

DR. JOSEPH DE PIETRA SANTA has recently published an interesting paper in the *Journal d'Hygiène*,[1] of which he is editor, on the merits of sugar "as a military aliment." It was long believed, he says, that sugar caused constipation and was moreover "*heating*," an ill-defined term greatly in vogue a generation or two since. In the opinion of many distinguished members of the medical profession sugar became unwholesome when it was consumed in anything but small quantities, causing ulcers in the mouth with softening of the gums and also predisposing to scurvy. Requiring a large amount of gastric juice for its proper solution it consequently soon fatigued the stomach, while at the same time it favoured worms and weakened the chest. By degrees, however, more enlightened views began to prevail. Physicians in various countries became converted and in France the celebrated hygienist, Michel Lévy, constituted himself the champion of the maligned product, preaching the doctrine that Nature herself taught us to make use of sugar inasmuch as she combined with it many tasteless or acid substances which otherwise would remain unpalatable. Cruveilhier likewise supported sugar from the coign of vantage of his professorial chair, declaring that its evil reputation was a libel, while Proudhon was responsible for the aphorism that "sugar constitutes the poor man's pharmacy, being injurious solely to the pocket." By this time the alimentary status of sugar is no longer doubtful. The pariah of yesterday has grown into the spoilt darling of the dietitians of to-day, the change being in a great measure due to the ever-increasing army of cyclists whose sagacity was not long at fault in recognising the value of sugar not merely as a trustworthy respiratory food but also as a potent and speedy recuperator in muscular weariness. In December, 1897, the question of the usefulness of sugar as a food for soldiers was raised in the German Parliament by Dr. Paasche who based his argument on some experiments which had been undertaken by Staff Surgeon-Major Schumburg and in consequence of the discussion that ensued a further investigation under Dr. Leitenstorfer took place at Metz during the annual manœuvres. 20 men having been selected from each company of a regiment, all of them resembling each other as much as possible in physique, general health, &c., an extra ration of 100 grammes of sugar was issued to half of the whole number. The results are said to have been conclusively in favour of the sugar eaters. They increased in weight while their comrades did not, they enjoyed much better health, and they were also able to support the hard work with much less distress. The use of a lump or two of sugar is described as acting like a charm not only against fatigue but also in quenching thirst; and none of the men who consumed the extra ration felt in the least surfeited by it. The French soldier, it seems, only gets two and a half grammes of sugar daily, whereas his English congener's allowance is 37 grammes. "How far we are behind this practical people!" exclaims Dr. de Pietra Santa.

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[1] Vide THE LANCET, March 11th, p. 719.

[1] No. 1169, Feb. 16th, 1899.

THE CHAIR OF PHYSIOLOGY IN EDINBURGH UNIVERSITY.

As announced in our advertising columns last week, the preliminary steps are being taken with a view to filling the chair of physiology left vacant by the lamented death of Professor Rutherford. On account of the important interests involved it is essential that both the patrons who decide the appointment and also the intending candidates should have ample time in which to complete their arrangements. Applications are now invited and are to be sent not later than Saturday, May 20th next, to the secretary to the curators of patronage, Mr. R. Herbert Johnston, W.S., 66, Frederick-street, Edinburgh. Each candidate must send eight copies of his application, one of which should be signed, and must also send eight copies of any testimonials which he may desire to submit.

GENERAL PARALYSIS OF THE INSANE IN MOTHER AND CHILD.

THIS rare condition has been very rarely recorded, and a recent interesting case (with results of the post-mortem examination) published by Dr. Oscar Müller in the *Allgemeine Zeitschrift für Psychiatrie*, June, 1898) calls for special notice. The mother, a woman aged 45 years, had had syphilis and had given birth to two children, one of whom died from infantile convulsions. This child showed evidences of congenital infantile syphilis. The other child grew up apparently in good bodily health and as regards her mind she was an average and even promising child. At the age of 10 years, however, she began to exhibit loss of intelligence, could not keep pace with her schoolmates, and soon became quite dull and stupid. From being a clever skater she soon became an incapable one, while her handwriting also rapidly failed and grew confused and illegible. Her increasing mental dulness passed into a profound apathetic dementia; she was reduced to an idiotic and helpless condition, in which state she died. The mother shortly before this began to show signs of mental and moral deterioration and probably the onset of the climacteric period tended to hasten the *dénouement*. She developed extreme conjugal jealousy and then she became careless and neglectful of her own appearance and took to drink. At this time a slight defect of articulation developed; this became marked and finally there was actual paresis of the muscles of articulation, with tremors of the tongue and lips. Her mind now rapidly and steadily lapsed into dementia and she died shortly afterwards. A necropsy showed her brain to be affected with the typical vascular and meningeal lesions of general paralysis. The child was also examined post mortem and the brain lesions were found to conform to those of the mother. The interest of the case lies not only in its rarity, but also in the fact that the necropsies disclosed the lesion which was diagnosed during life. Further interest attaches to the fact that the case of the daughter was one of that rare type of disease known as "juvenile general paralysis." It may be mentioned that cases of such similar heredity are quite rare, and when they do occur there has generally been associated with them a history either of personal or congenital syphilis. The latter is a factor of such predominating frequency that it leaves no doubt as to the fact that the chief cause of juvenile general paralysis is congenital syphilis. The larger question, however, as regards the agency of acquired syphilis in determining the appearance of general paralysis in adults is unfortunately not settled by the evidence of cases such as the above, though the weight of evidence inclines to view syphilis as an accessory and contributory factor with others, such as general excess and intemperance.

BLACKWATER FEVER.

THE paper which is to be read before the Epidemiological Society of London to-night (Friday) on this interesting but imperfectly understood condition is probably looked forward to with much interest by epidemiologists. Mr. W. H. Crosse, the reader of the paper, was for some years Principal Medical Officer to the Royal Niger Company and in this capacity he had unusual opportunities for studying the manifestations of this condition and its relations to malarial fever, to paroxysmal hæmoglobinuria, and to quinine poisoning. As to the distribution of this abnormal state we have yet much to learn, and it must be said that having regard to the large number of our countrymen who spend most of their existence in those of our colonies where malaria obtains it is of great importance that our knowledge on the subject should be extended.

THE MEDICAL FACTOR IN IMPERIAL EXPANSION.

THE "white man's burden" is a complex as well as a weighty one and its medical constituent is as important as any. This was admirably put by Professor McKendrick at the mass meeting held last week in Glasgow on the subject of medical missions. No other nationality has combined, as has the British, colonial development with civilisation—civilisation of which the inferior races sooner or later feel the benefit and from which they take "a new departure" in their evolution. True, in the sixteenth and seventeenth centuries Francis Xavier and his followers, mainly belonging to the Society of Jesus, did splendid work in East Africa and in South America, but that work was too closely identified with religious proselytism to be thoroughly healthy or lasting. Their successors in practice have admitted as much. The Capuchin monk Massaia (afterwards promoted to be cardinal) took a leaf out of English-speaking missionary effort when he made Bible instruction to come after, not precede, physical and moral rehabilitation. In the Galla country 50 years ago he taught the savage population the arts of peace (mainly agricultural industry) before translating for them and interpreting the Sermon on the Mount. But his most effective resource was of a medical nature and he owed his wonderful command of native sympathy and allegiance more to his having stamped out small-pox by vaccination than to any other of his benefactions. Among all the incidents brought to light by the Fashoda difficulty, none was more significant than the friendly reception accorded to Major Marchand by the natives from the mistaken notion that he was English, so universal is the native impression that of all the "white men" who invade Equatorial Africa, those of British
nationality
the most to
able

English-speaking expansion over that of its other European competitors in the strongest light—a superiority due to the civilising energies and aptitudes of the race, using as a main instrument the medical missionary. Scotland has an honourable record in this field of enterprise, from Mungo Park to David Livingstone and the noble band of volunteers to whom the regions round the Equatorial lakes are already so deeply indebted. The faculty which he represented in Glasgow University took, said Professor McKendrick, "the deepest interest in medical missionary work." Long may it continue to do so, thus making medicine the handmaid of physical and moral evolution and promoting spiritual reclamation with a success which religion, single-handed, has never known.

"ANTI-VIVISECTION."

AN institution that desires to be known as the National Anti-Vivisection Hospital is advertising for funds. A noble lord and a lady whose name is not given have promised sums of £50 and £10 respectively if a given number of persons will also oblige with donations of equal value. The programme which the promoters of this foundation lay down for it is brief and is as follows: "No vivisectors on its staff; no vivisection in its schools; no experiments on patients." There is here an obvious omission and one which no doubt the intending donors of £50 and £10 will desire to see supplied before drawing their cheques. A fourth rule should run to this effect: "No operation will be performed and no drug will be administered in this hospital the effect of which has been discovered or verified in any degree by means or with the aid of experiments on living animals," all such experiments being presumably included in the word "Vivisection" as used in the advertisement. The precise meaning of the expression "experiments on patients" needs further definition. Either the surgeons in this institution are to profit by operations successfully performed for the first time elsewhere by other surgeons, but are not to be trusted to take steps without precedents to follow, or a wider principle is suggested for universal guidance similar to that enjoined by the fond but Hibernian parent who forbids a child to enter the water until he has learnt to swim. In whatever way it may be regarded every deviation, however slight, from established practice is necessarily an experiment the first time it is made, aye and until the deviation has itself become recognised as necessary when occasion demands. But now we are beginning to pay the faddist the useless compliment of reasoning with him, whereas he will not even gracefully reply by submitting to us a schedule of the operations and drugs that he would permit under the limitations which we have suggested and which are the logical complement to those already propounded.

RIVER POLLUTION: THE MERSEY AND IRWELL DISTRICT.

AT a meeting of the Mersey and Irwell Joint Committee held on March 6th Sir Henry Roscoe presented a return of a series of analyses of sewage effluents and of the waters of the Ship Canal and of the rivers in the district. Of 36 samples of effluent taken 26 were either good or fair, the unsatisfactory effluents mainly coming from tanks. The tables concerning the effluents showed that the difficulty of dealing with the sewage was mostly felt in the large towns. Since the committee began its work, however, their knowledge had been much extended and he felt that even in large towns the difficulties which presented themselves could be overcome. There was no doubt of considerable progress having been made and this progress was especially noticeable in the condition of the rivers themselves. Many cases had come before them in which water could be used for manufacturing purposes which could not be so used before the committee began its work. It was satisfactory to know, too, that the committee had not interfered with trade. No single instance had occurred in which a manufacturer had to leave the district by reason of the action of the committee. The returns were of considerable interest. They had hitherto not been able to state definitely what the condition of the rivers was. He had the results of a very complete system of analyses of the waters of the ship canal and of the rivers in the watershed. 63 samples had been taken from the Ship Canal and analysed and they had obtained a fair idea of the condition of the water generally. It had been said that the composition of the water in the canal was worse than the effluent from the local authorities. This was proved by analyses not to be the case. 69 samples had been taken from the streams. It was found in all cases that the condition of the water deteriorated the further they went from the source. Although they could not tell exactly the improvement which had taken place in the condition of the streams during the last few years there was no doubt that some improvement had taken place. The samples related to the Irk, the Medlock, the Mersey, the Irwell, the Roach, and the Beal. The Irk was by far the worst of the streams; the Mersey and Irwell were not nearly so bad. The reason for this will no doubt be the subject of investigation.

CONVERSAZIONE AT THE MIDDLESEX HOSPITAL MEDICAL SCHOOL.

A CONVERSAZIONE was held on Wednesday, March 15th, on the occasion of the inauguration of the new school buildings. Guests were received in the board-room by the chairman of the council, the senior physician, the senior surgeon, and the dean. The new school buildings consist of two blocks—the Garden block and the Union-street block. The Garden block contains the large lecture theatre, the bacteriological research laboratory, the museum, the chemical department (with laboratory, lecture theatre, and lecturer's private laboratory) the pathological and bacteriological laboratories, the room for operative surgery, and the dissecting-room. In the Union-street block are two physiological laboratories and some class-rooms. All the laboratories have evidently been fitted up with very great care and are admirably adapted for the purposes for which they have been designed. They are well-equipped with all needful apparatus. Many objects of interest were on view in the various rooms, and among them may be mentioned the following. In the large lecture theatre Messrs. Muirhead and Co. exhibited Mr. Mackenzie Davidson's apparatus for localisation in skiagraphy, and especially neat was a portable form of the apparatus intended for use by army surgeons in the field. Mr. Mackenzie Davidson also showed stereoscopic skiagrams by means of Wheatstone's stereoscope. In the bacteriological research laboratory was an interesting series of specimens prepared by Mr. A. G. R. Foulerton illustrating the successive steps in the complete bacteriological diagnosis of pulmonary tuberculosis. In the museum Dr. Voelcker and Dr. Campbell Thomson showed many recent additions to the museum prepared by the Kaiserling method which so successfully retains the normal appearance of the tissues. Dr. Voelcker also kindly lent for exhibition a fine and valuable collection of archaic medical works. In the chemical theatre were to be seen the spectra of the latest additions to the list of elements—namely, neon, krypton, and xenon; these were exhibited by Professor W. Ramsay and Dr. Travers. In the anatomy lecturer's room was an exhibition by Messrs. Schall of electrical apparatus adapted to medical purposes. In the pathological and bacteriological laboratories were many microscopical preparations of morbid histology and some original paintings and drawings by Sir Charles Bell; there were some very interesting microscopic sections of yeast tumours and some showing mycosis of the lung. Two species of filaria—namely, perstans and nocturna—were also shown. Messrs. Swift and Son showed many microscopes and microscopic preparations, and surgical and scientific instruments were exhibited in the dissecting-room by Messrs. Allen and Hanbury, Mr. C. Baker, Messrs. Curry and Paxton, Messrs. Krohne and Sesemann, and Messrs. Maw, Son, and Thompson. In the physiological laboratory Mr. Somerville Hastings gave a demonstration of the action of the auriculo ventricular valves in the heart of the ox, and Dr. J. J. Pringle exhibited many striking water-colour drawings of rare skin diseases. In the entrance hall were to be seen the skeletons of the originals of Landseer's "Dignity and Impudence." The band of the Royal Artillery performed a charming selection of music in the museum during the evening.

THE PETROLEUM BILL.

THIS Bill, in which Mr. Harold J. Reckitt sought to raise the flash-point of oil for lighting purposes from 73° to 100° F, was rejected on a division on the second reading in the House of Commons last Wednesday by a majority of 85, the figures being 159 for and 244 against. We have throughout entertained doubt whether the Government would be led, in view of the recommendation in favour of raising the flash-point being sustained by so narrow a majority of the Petroleum Committee, to legislate in this direction Interest will now turn on the proposals which the Government will make in their Bill which Mr Jesse Collings has promised to introduce shortly. We are entirely with those who are studying the question solely from the point of view of public protection, and trust that whatever measure may be proposed it will be one calculated to protect life and limb.

WE are informed that Dr. Curnow, Dr. John Anderson, C.I.E, and Mr. G. R Turner, have signed a joint letter resigning their posts as physicians and surgeon, respectively, to the Seamen's Hospital Society, but offering to continue the performance of their duties until their successors are appointed. Mr. Donald Gunn, the ophthalmic surgeon, has also resigned his post We shall refer next week to the circumstances which have thus left the *Dreadnought* Seamen's Hospital, Greenwich, without any honorary medical staff.

A COURSE of lectures on Diseases of Tropical Climates will be delivered by Dr Patrick Manson in the Medical School of St. George's Hospital on Tuesday, May 16th, and every succeeding Friday and Tuesday till July 18th, at 5 P M each day. For information with regard to the course application should be made to the Dean of Medical School.

SIR T. NAGHTEN FITZGERALD, F R C S Irel., who has been elected president of the Medical Society of Victoria for the ensuing year, is an Irishman who was born in Dublin 64 years ago. He is the senior surgeon to the Melbourne Hospital in Victoria and was knighted in 1897.

WE understand that the Society of Apothecaries of London intend to have the question, temporarily decided by the case of "Hunter *v.* Clare," as to the right of a Licentiate of the Society to style himself "physician," reopened at an early date.

THE annual meeting of the Asylum Workers' Association will take place on Monday, March 27th, at 3 30 P M, under the presidency of Sir J. Crichton Browne, M.D. Edin, F.R S., at 11, Chandos street, W.

DR. THOMAS BARLOW has been appointed to fill the vacancy in the body of the University of London Commissioners caused by the resignation of Sir William Roberts, M.D. Lond.

WE regret sincerely to learn of the death of Major James W. Evans, I.M S, Professor of Pathology in Calcutta Medical College, from plague.

THE LAW IN REGARD TO THE PROFESSIONAL SECRECY OF MEDICAL PRACTITIONERS.

THE following is the memorandum on this subject prepared by Mr. Muir Mackenzie at the request of the President of the General Medical Council with the concurrence of the Executive Committee for transmission through the Home Secretary to the Russian Ambassador who had asked for information for the use of his Government

Memorandum on the Law of the Obligation of Medical Practitioners with regard to Professional Secrecy

There are two aspects of the question of professional secrecy of medical practitioners—namely, first whether a medical man can be made to divulge professional confidences in a court of law and, secondly, whether he may under any circumstances be permitted to divulge professional confidences in the intercourse of daily life

(1) As regards the first question it is settled law that a medical man cannot claim the privilege to which lawyers have been held to be entitled, of refusing to disclose matters communicated to them professionally "A surgeon has no privilege where it is a material question in a civil or criminal cause to know whether parties were married or whether a child was born to say that his introduction to the parties was in the course of his profession and in that way he came to the knowledge of it If a surgeon was voluntarily to reveal these secrets to be sure he would be guilty of a breach of honour and of great indiscretion, but to give that information in a court of justice, which by the law of the land he is bound to do, will never be imputed to him as any indiscretion whatever"—per Lord Mansfield in the Duchess of Kingston's case, 20 S T p 573 The same position is recognised by Buller, J, in Wilson v. Rastall, 4 T R p. 760, where he says, "There are cases to which it is much to be lamented that the law of privilege is not extended; those in which medical persons are obliged to disclose the information which they acquire by attending in their professional characters", and similarly in a later case Lord Chancellor Brougham, after referring to a lawyer's right of privilege, continues as follows: "The foundation of this rule is not difficult to discover, it is not (as has sometimes been said) on account of any particular importance which the law attributes to the business of legal professors or any particular disposition to afford them protection, though certainly it may not be very easy to discover why a like privilege has been refused to others, especially to medical advisers"—Greenhough v. Gaskell, 1 M & K., p 103.

In Rex. v. Gibbons, 1 C P. 97, where the prisoner was indicted for the murder of her child and a surgeon was called to prove confessions made to him Park, J, overruled the objection that the witness was at the time attending the prisoner in his capacity of surgeon, adding: "That is no sufficient reason to prevent a disclosure for the purpose of justice", and the same rule, "that there is no privilege of this description in the case of a medical man," was repeated by Best, C J, in Broad v. Pitt 3 C P 518

From these cases it is clear that a medical man not only may, but must, if necessary, violate professional confidences when answering questions material to an issue in a court of law.

2. Upon the second question there have been, not unnaturally, very few expressions of judicial opinion It is admitted as a general principle that a medical man should not disclose communications made to him in his professional capacity, and in the Scotch Court of Session it has been judicially decided that "secrecy is an essential condition of the contract between a medical man and his employers, and breach of secrecy affords a relevant ground for an action of damages." A.B. v. C D, 14 Dunlop, second series, 177 But upon this rule of the general inviolability of professional confidences (outside a court of law) the custom of the medical profession has engrafted two exceptions, (1) in cases of criminal communications, (2) where violation of secrecy is considered necessary for the protection of wife or children (to which may be added a third exception, suggested by the court in A.B. v. C D, cited above—viz., instances conducive to the ends of science though concealment of individuals should in such cases be secured) These two exceptions were the subject of testimony given by eminent medical witnesses in the case of Kitson v. Playfair in 1896 as being generally recognised among medical men, but they are not judicially recognised as invariable exceptions as is shown by the summing up of Sir H. Hawkins in that case. The defendant pleaded privilege on the ground of the second of the above exceptions, and though the point was not decided owing to the jury finding that the defendant had been influenced by an indirect motive the following passages are relevant to the matter of the obligation of secrecy among medical men On medical evidence as to professional privilege being given Sir H Hawkins said "The question of privilege is for me to decide, and, so far as it concerns that question I shall not be influenced by this evidence."—*Times*, March 26th, 1896

The following passage occurs in the report of the judge's summing up "The medical profession might, no doubt, discuss among themselves rules for their own guidance, but they had not power to impose the rules they made upon the public. The medical men called said there were two exceptions to the rule imposing on them secrecy as to confidences gained during professional attendance.

"The first was as to giving evidence in a court of law. His lordship did not altogether agree with what they said as to that. It all depended on the judge. The judge might in some cases refuse to commit a medical man for contempt in refusing to reveal confidences. Each case would be governed by particular circumstances, and the ruling of the judge would be the test.

"Secondly, that if there were circumstances from which they supposed a crime was intended to be committed they would have to inform the public prosecutor. If the doctor were called in merely to attend a woman needing physical aid, his lordship doubted very much whether he would be justified in going to the police and saying, 'I have been attending a woman who has been trying to procure an abortion.' That would be a monstrous cruelty. Therefore to say there was a general rule was going too far. There was a third exception—namely, a communication between the doctor and his wife or children. That required a great deal of limitation. For instance, there were cases in which the wife did not require protection, and where it would be a wanton act to communicate a secret to her. That was a delicate question, but did not arise in the present case. The law as to words spoken on a privileged occasion was pretty well known."—*Times*, March 28th, 1896.

From this it seems clear that on the question of violation of professional secrecy a medical man is in no more favoured position than anyone else, and further, that circumstances which according to the custom of the medical profession might be deemed to exonerate him from the imputation of improper violation of secrecy might nevertheless in a court of law be deemed an insufficient justification.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

We continue our report of the fifty-seventh sitting of the Royal Commissioners.

In answer to the Chairman Sir Frederick Dixon-Hartland said that the Conservators objected to any power being given to the Local Government Board to "relax" (increase) the limits of the water companies' intake from the Thames. They felt very strongly on this point because Parliament had settled the amount which the companies were to be allowed to draw after a most careful investigation both in the House and before committees. If a Minister had a right at a moment's notice to overthrow everything that Parliament had decided with regard to the amount of water which might be taken the Conservators would not know where they were. They strongly objected to such a change. They had a duty to fulfil with regard to the navigation and it was not right that the Acts passed to enable them to carry out these duties should be set aside for the sake of the water companies.

The Chairman asked whether the Conservators would be satisfied if the discretionary power of allowing more water to be taken should be vested in the Conservancy. The witness replied that if that were done he would state with perfect candour what line the Conservators would take. They would allow the water companies to take any amount of water in time of drought so long as it did not interfere with navigation.

The Chairman said that it had been suggested that instead of an enormous storage which in average years would be useless it might be well in a year of emergency to vest in some body the discretion of saying: "Very well, take more water from the Thames; let the barges go aground for three months if you please." The witness pointed out that it was not only the upper river navigation which the Conservators had to think about: it was the interference with the navigation of the lower part of the river which was the most serious thing.

The Chairman pointed out that the suggestion which he had just made was the way in which the matter had been put to the Commissioners by the metropolitan water companies—namely, that it would be better in an exceptional period that a little inconvenience should be suffered below the last weir than it would be to spend millions of money in making reservoirs which would perhaps be only required once in half a century. The witness pointed out that the Conservators had at the present time, as a matter of fact, discretionary power to allow the water companies to draw more than their statutory limits. They were not compelled to ask for an injunction against the companies if they drew more than they ought, and they had not done so as a matter of fact. To take an instance, they had not exercised their powers against the Southwark and Vauxhall Company for many years, although they were taking more than they were allowed by Parliament. They exercised their powers when the Southwark and Vauxhall Company declined to make provision for any storage at all.

Major-General Scott suggested that the demands of navigation would have to give way if there was an absolute scarcity of water in London. The witness said that the companies were bound to go somewhere else into their own districts as, for instance, the New River Company had been. It was not for the Thames Conservators to save them from the expense of making storage reservoirs; it was the duty of the water companies to supply their customers and to make the necessary arrangements for doing so.

The Chairman suggested that the power of exemption with regard to the statutory limits of the intake of a company would only be extended in an extraordinary emergency like that of last year. The witness replied that as far as the Conservators were concerned they would not interfere with an over-draught from the Thames if the navigation was not thereby interfered with. At the present time barges had some difficulty in getting under Kew Bridge. It was necessary that a certain amount of water should pass down from the upper river to clear away the mud. This accumulation was due to the fact that a sufficient amount of water had not recently passed down. At least 200,000,000 gallons should be allowed to pass daily over Teddington Weir.

In answer to Mr. de Bock Porter, the witness said that the companies ought not to be allowed to take more than 130,000,000 gallons from the Thames on any one day. If the metropolitan water companies were ordered to give storage for 90 days there was plenty of water in the Thames to supply London for a hundred years to come. There was no difficulty in having a sufficiency of water if sufficient storage were provided. The Conservators simply wished that the water companies should be made to provide for a dry season and there would then be no difficulty in the matter.

In answer to Sir John Dorington the witness said that they did not protest against 130,000,000 gallons being taken daily because the matter had been settled by Parliament and they could not help themselves. At the present time, however, the position of the Conservators was this: the metropolitan water companies had been permitted by Acts of Parliament to take this amount and they did not wish to interfere with that arrangement because they would not like to interfere with "vested rights."

In answer to Mr. de Bock Porter the witness said that the Conservators had not a sufficient amount of money at their disposal to carry on all the work of dredging which ought to be done. If the upper channels were deepened more water would come down the river and there would be less difficulty in times of flood, and if more money could be allowed for dredging it would be of the greatest advantage to the river.

In answer to the Chairman the witness said that they had not lately met with much opposition from local authorities with regard to their insistence on the prevention of pollution. Lord Valentia lately brought a deputation to meet them and the amusing part of it was that Lord Valentia himself represented Oxford and that a representative of a neighbouring authority complained chiefly that Oxford polluted the river and that his clients were not allowed to do the same.[1]

The Chairman asked when were we to have salmon in the Thames. The witness did not name a time, but he stated that smelts now come up as far as Blackwall and that salmon trout are to be put into the river at Sunbury this year.

Sir Edward Frankland in answer to the Chairman said that he obtained the water for his examinations from the filter wells of the Chelsea, West Middlesex, Grand Junction, Southwark and Vauxhall, and Lambeth Companies. The witness handed in a diagram and in answer to the Chairman he said that there was a rise in the number of microbes in filtered water corresponding with the rise in the number of microbes in the "raw" water, but that this increase was by no means uniform or equal—for instance, in January, 1894, there was a great rise in the number of microbes in the "raw" water and only a slight rise in the number of those in the filtered water, whereas in February, 1895, there was a smaller rise in the number of microbes in "raw" water but a larger rise in the number of microbes in the filtered water. The witness said that these anomalies were capable of a pretty feasible explanation. Different companies have different amounts of storage capacity. The samples of river water and of filtered water were taken on the same day but possibly the storage reservoirs of some of these companies might have been taken from the river a day or two or three days before the flood came and they would then have been using for filtration water containing a lower number of microbes.

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[1] A report of this meeting appeared in The Lancet of Feb. 18th, p. 459.

In answer to the CHAIRMAN, who said that he always understood language but confessed that he was puzzled by diagrams, the witness said that the microbes increased with the flood.

The CHAIRMAN remarked that they had heard the contrary from high scientific authorities. The witness replied that the opinion he had expressed had been tested by him for several years.

The CHAIRMAN asked if filtration was properly done whether it mattered how many microbes there were in the raw water, whether the water would come out equally good The witness replied that that was Mr. Dewar's opinion, but that it did not agree with his experience and that was why he had made out this diagram as a test of his experiences.

In answer to Major-General SCOTT the witness said that their information about the action of sand filters in removing the microbes was still in a very rudimentary state. He had no doubt from observations which he had been making now for some years that every day the water was stored in a reservoir it improved greatly in its microbial quality Lake waters contained few bacteria, and although the streams which supplied them may contain a great many they disappeared when they got into the lake. For example the sewage of Buffalo goes into the St Lawrence above the falls, the microbes survive that fall and the mouth of the river where it enters Lake Ontario is charged with an enormous number of microbes, but within a mile or two of the entrance of the river the water of the lake is nearly free from microbes. The witness gave it as his opinion that the safest treatment for flood water, and, indeed, for any water, is to put it into a subsiding reservoir.

With regard to the question of filtration the CHAIRMAN asked whether anything had been done to carry out the recommendations of Lord Balfour's Commission The witness said that improvements had been made Lord Balfour's Commission had abstained from laying down any regulations for filtration but had suggested that regulations should be made after inquiry, but the witness did not think that engineers knew enough about the matter to lay down any definite regulations.

The CHAIRMAN asked whether the witness could suggest any system by which the inquiry could be continued and the storage of Thames water could be safely carried on The witness replied that he thought it was possible after efficient filtration to keep the number of microbes below 100 per cubic centimetre and that this was best effected by the use of fine sand on the surface of the filter, for a thin stratum of fine sand was better than a thick stratum of coarse sand The West Middlesex Company uses very fine sand and their filtration is as a rule more perfect than that of any of the other Thames companies which use coarser sand.

Major-General SCOTT asked whether as a matter of fact analysis did not show that the number of 100 microbes per cubic centimetre was frequently exceeded in filtered water supplied by the companies. The witness replied that this was so. There were, however, some points which required further investigation. For his own part the witness did not think that the freezing of the sand in winter caused an increase in the number of microbes. It was difficult to account for the increase—in the middle of summer all the filters of the companies went wrong at the same time The witness did not think it would be right at the present time to impose a statutory obligation with regard to the number of microbes present in the water supplied by a company.

Mr. CRIPPS asked whether those microbes which multiplied so quickly were mischievous at all. The witness said that in the seven years during which he had been making observations he had not been able to catch a mischievous microbe; they might, as far as he knew, be nutritious.

In answer to Sir JOHN DORINGTON the witness said that he examined specimens of water at Reigate and Mr Dewar examined them at Kensington. Water ought really to be examined on the premises of the companies. His laboratory was too far off. It would be best for bacteriologists to take samples and cultivate them on the spot because cultivation should be carried out without delay.

In answer to the CHAIRMAN the witness said that in his opinion the lakes in the north of England contained better water than the Welsh lakes. It was not necessary to go to Wales for an additional supply of water for London; there were other places, notably the lakes of Cumberland and Westmorland. The Lakes District water had been clearly proved by the Duke of Richmond's Commission to be as good as the best Welsh water, and the best Welsh water had been already appropriated by Birmingham and Liverpool. The lakes of Cumberland and of Westmorland had been very little appropriated up to the present time. Thirlmere had been taken by Manchester but Ullswater and Hawes Water were still to be had. The witness said that when he examined Ullswater it was of such excellent quality that it was nearly equal to spring water, and better than that of Thirlmere, which has been appropriated by Manchester.

METROPOLITAN SCHOOLS OF MEDICINE AND THE UNIVERSITY OF LONDON.

THE following memorandum has been signed by the representatives of all the Metropolitan Schools of Medicine and forwarded to the University of London Commissioners.—

1 The schools which are parties to the subjoined memorandum are the Faculties of Medicine in University and King's Colleges and the 10 other Schools of Medicine named by the Gresham University Commissioners for immediate admission as schools of the University of London (Report, p. xxii), viz., the Medical Schools of the Charing Cross Hospital of Guy's Hospital, of the London Hospital, of the Middlesex Hospital of St Bartholomew's Hospital, of St. George's Hospital, of St. Mary's Hospital, of St. Thomas's Hospital, of the Westminster Hospital, and the London School of Medicine for Women. They are educating between them about 3000 students and employ about 400 teachers of various grades.

The organisation of medical education in London on university lines is of long standing, though until now it has lacked direct connexion with, and influence in, a university. The schools submit that no faculty will bring such immediate strength to the remodelled University of London as the Faculty of Medicine.

2. The schools would urge upon the Commissioners that, in the first instance, all the principal teachers of the schools, including the clinical teachers—that is, all those who are not under the control of other individual teachers, but only of the general authority of their school—should be recognised as teachers of the University[1]; and that they, together with the teachers, if any, appointed by the University itself, should be constituted the Faculty of Medicine, with such rights of addressing the University authorities and such representation on the Board or Boards of Studies of the Faculty as the Commissioners may determine

3 In view of the number of teachers and students who will from the outset be concerned in the faculty of medicine in view of the large public interests involved in their work and of the peculiar position of degrees in medicine as being also certificates of competence recognised by the State, the schools submit that the representation on the Senate assigned by the Commissioners to so important a division of the University should not be less than that assigned to any other single faculty.

4 In view of the serious waste of labour at present occasioned in the London schools by the variety of curricula and sets of examinations for which students have to be prepared, and the different times of the year at which the examinations of the several examining bodies are held, the schools trust that the University will endeavour to carry out an important recommendation of the Gresham University Commission (Report, p. xliii) by entering into relations with the Royal Colleges of Physicians and Surgeons for the purpose of holding joint examinations in some parts of the medical curriculum.[2]

Signed,
For the Medical Faculty of University College,
RICKMAN J. GODLEE.
" " *King's College*,
JOHN CURNOW.
For the Medical School of the Charing Cross Hospital,
STANLEY BOYD.
" " Guy's Hospital,
FREDERICK TAYLOR.
" " the London Hospital,
J. HUTCHINSON, Jun.
" " the Middlesex Hospital,
JAMES KINGSTON FOWLER.
" " St. Bartholomew's Hospital,
T. W. SHORE.
" " *St. George's Hospital*,
ISAMBARD OWEN.
" " St. Mary's Hospital,
HERBERT PAGE.
" " St. Thomas's Hospital,
J. F. PAYNE.
" " the Westminster Hospital,
A. H. TUBBY.
" " the London School of Medicine for Women,
March 13th, 1899 E. GARRETT ANDERSON.

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[1] The Faculty of Medicine of University College is of opinion that this should apply only *to teachers of purely medical subjects*

[2] The Faculty of Medicine of University College is of opinion that the University should retain the management of its examinations in its own hands.

THE PREVENTION OF TUBERCULOSIS.

IT has become universally recognised that tuberculosis is a preventable disease, that the disease itself is not hereditary but only the predisposition to it, and, lastly, that it is a communicable disease from the sick to the sound—i.e., that the tuberculous animal whether human or not is a source of danger to other animals. These ideas have permeated the country and it is allowed that something should be done towards the consummation of the desired tactics for lessening and in time, perhaps, getting rid of the tuberculous scourge. A National Association for the Prevention of Consumption and Other Forms of Tuberculosis has been formed primarily in London but branches have also been started all over the kingdom. We therefore intend to give in this column an epitome of such proceedings as may be taken by the various authorities, municipal and other, with regard to educating and organising the people in the matter of this important question. Concerning the work of this association we have kept our readers well informed from time to time and we have no doubt that the fact of H.R.H. the Prince of Wales being its President will do more to convince the man in the street of the excellence of its intentions than even the soundness of the pathological doctrines upon which its work is founded.

Cumberland.

A public meeting of the Cumberland Branch of the National Association for Prevention of Consumption and other forms of Tuberculosis was held in the Town Hall, Carlisle, on March 2nd. The meeting had been convened by the Lord-Lieutenant (Lord Muncaster), the High Sheriff (Mr. G. G. Kirklinton), the Mayors of Carlisle, Workington, and Whitehaven, and the Chairman of the County Council. There was a large attendance of medical men and county councillors.

Dr. R. W. PHILIP of Edinburgh, who had been specially invited, spoke of the importance of the open-air treatment and referred to the Edinburgh sanatorium.

The Bishop of CARLISLE, in moving the first resolution—i.e., that constituting the meeting a branch of the National Association—made an admirable speech in which he mentioned the great influence that the clergy should have for good in spreading information as to ways and means of prevention.

Other resolutions dealing with the organisation of the branch were put and passed. With a view to the future erection of a sanatorium for the county a number of subscriptions have already been promised, including an anonymous one of £400.

York.

The Sanitary Committee of the York City Council have issued a pamphlet signed by Dr. E. M. Smith and written in very plain, simple language which they commend to the notice of all citizens. It emphasises the necessity and the possibility of prevention if only some simple rules are adhered to. Directions are given as to disinfection and the paramount importance of fresh air and sunlight. Further stress is laid upon infection of milk and the danger of phthisical persons attending upon cattle.

Worcester.

The medical officer of health of the city of Worcester has prepared a report upon tuberculosis which has been issued separately. It deals with the matter under the following heads:—

1. To what extent tuberculosis exists at the present time in man and in cattle.
2. The means by which the disease is conveyed to the healthy from those already infected.
3. The conditions favourable and inimical to the growth and spread of the disease.
4. The administrative procedures that can be taken by sanitary authorities to stamp out the disease and the recommendations of the Royal Commission.

Crewe.

On Feb. 28th a special meeting of the Health Committee of the Crewe Town Council was held to consider the question of the prevention of tuberculosis. Dr. Meredith Young laid before the committee a report on the death-rate from tuberculosis and also a programme of suggested preventive measures. The following were finally agreed to:—

1. That the medical officer of health be empowered to offer facilities for the bacteriological examination of material from suspected cases of phthisis and other forms of tuberculosis, the result of such examination, if positive, to be considered a notification of the disease, but that no action whatever be taken on the receipt of this information except at the request of the medical attendant, the patient, or his relatives.
2. That the medical officer of health be empowered to have the milk-supply to the Isolation Hospital bacteriologically examined from time to time as often as he may deem necessary.
3. That disinfection of houses, bedding, clothing, &c., be done by the Corporation staff free of charge in all cases of tuberculosis when so requested by medical practitioners or by the relatives.
4. That the medical officer of health insert the sum of £25 in the annual health department estimates to cover the expenses in connexion with the obtaining of weekly returns of sickness from all the friendly and sick societies in the borough, and that he formulate at an early date a scheme for obtaining these from the various secretaries and submit it to the health committee.
5. That the medical officer of health draw up a simply worded handbill on the prevention of tuberculosis and have this printed and circulated to every house in the town.
6. That the town clerk and the medical officer of health write to the Local Government Board asking that the New Dairies', Cowsheds', and Milkshops' Regulations framed by the Council should be forwarded as early as possible, otherwise farmers and others concerned would not be able to carry out any necessary alterations at a suitable time.
7. That the Royal Agricultural Society be accorded the best thanks of the committee for their kindness in forwarding copies of leaflets on tuberculosis in dairy stock, and that the medical officer of health circulate these to every cow-keeper within or around the district.

Plymouth.

A public meeting was held in St. Andrew's Hall, Plymouth, on Feb. 21st to form a branch for Devon and Cornwall of the National Association for the Prevention of Consumption. The Earl of Mount Edgecumbe was in the chair and Dr. Theodore Williams and Dr. Childs were present from London as representing the association.—The CHAIRMAN spoke of the formation of the association and pointed out that the association in no way desired to exercise any compulsion.—Mr. PAUL SWAIN in a very excellent speech pointed out that in his opinion the sanitary authorities would have to take the same steps for the prevention of consumption as they did for the prevention of scarlet fever and small-pox. The conscientious objector would of course be to the fore but for all that he hoped that the people of Devon and Cornwall would join the society in large numbers.—Dr. CHILDS emphasised the fact that consumption was a national and not a merely local question.—The resolution moved by the Mayor of DEVONPORT expressing the desirability of forming a branch of the association and inviting all present to form a general committee for furthering this object was carried unanimously. An executive committee was also formed. The secretary of the meeting to whose hard work and organisation much of its success was due was Dr. Frank Bushnell.

Cardiff.

On Feb. 28th the Health Committee of the Cardiff Corporation received a deputation from the Cardiff Medical Society with the view of inducing the Council to take measures for the prevention of tuberculosis. The President, Dr. Rhys Griffiths, Dr. Paterson, the Secretary, and Dr. Fiddian, the treasurer, addressed the committee at length. It was agreed to have a series of special meetings to discuss the matter. The medical officer of health, Dr. Walford, has sent in a special report dealing with tuberculosis.

The Cape.

A movement is on foot for the better prevention of tuberculosis upon board ship, especially upon the Cape steamers. We learn from *South Africa* of March 4th that a proposal has been made to run a line of hospital ships for "consumptives" to the Cape where they would be entertained at a receiving house until well enough to look for work.

(To be continued.)

SIXTH INTERNATIONAL OTOLOGICAL CONGRESS, 1899.

THIS Congress is to be held in London from August 8th to 12th, under the presidency of Dr. Urban Pritchard. The British Organisation Committee which numbers over 70 members from Great Britain and the Colonies has Mr. A. E. Cumberbatch for its treasurer and Mr. Cresswell Baber for secretary-general. The meetings will be held at the Examination Hall of the Royal College of Physicians of London and Royal College of Surgeons of England. On Monday evening, August 7th, a preliminary reception will be held by the president elect. The official languages of the Congress will be English, French, German, and Italian. The subscription, to include a copy of the transactions, is fixed at £1, to be paid to the treasurer, Mr. A. E. Cumberbatch, 80, Portland-place, London, W., before the opening of the Congress. The subject chosen for special discussion is "Indications for opening the Mastoid in Chronic Suppurative Otitis Media," which will be introduced by Professor W. Macewen of Glasgow, Dr. H. Knapp of New York, Dr. Luc of Paris, and Professor Politzer of Vienna. A museum of specimens and instruments relating to otology, shown by members, will be held during the meeting. Communications regarding the museum should be addressed to Mr. A. H. Cheatle, 117, Harley-street, London, W. Intending members of the Congress are requested to send in their names to the honorary secretary-general as soon as possible and in any case not later than May 1st. Titles of communications, together with a short abstract of the same, should be sent to the honorary secretary-general by the same date. According to the regulations of the Congress no papers shall exceed 15 minutes in reading; therefore all long communications should be read in abstract.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6540 births and 4853 deaths were registered during the week ending March 11th The annual rate of mortality in these towns, which had increased in the three preceding weeks from 19·5 to 21·6 per 1000, further rose last week to 22·2. In London the rate was 22·4 per 1000, while it averaged 22·0 in the 32 provincial towns. The lowest death-rates in these towns were 13·5 in Cardiff, 13·7 in Gateshead, 16·3 in Croydon, and 16·6 in Swansea; the highest rates were 28·0 in Manchester, 29·7 in Preston, 29·8 in Oldham, and 30·4 in Halifax. The 4853 deaths in these towns included 409 which were referred to the principal zymotic diseases, against 364 and 437 in the two preceding weeks; of these 114 resulted from measles, 111 from whooping-cough, 90 from diphtheria, 43 from diarrhœa, 32 from scarlet fever, and 22 from "fever" (principally enteric). No death from any of these diseases occurred last week in Croydon or in Burnley; in the other towns they caused the lowest death-rates in Norwich, Gateshead, and Wolverhampton, and the highest rates in West Ham, Birkenhead, Manchester, and Salford. The greatest mortality from measles occurred in West Ham, Derby, Bolton, and Manchester; scarlet fever in Derby and Salford; and whooping-cough in Plymouth, Birkenhead, Preston, Halifax, and Hull. The mortality from "fever" showed no marked excess in any of the large towns. The 90 deaths from diphtheria included 36 in London, seven in Sheffield, five in Leicester, five in Leeds, four in Cardiff, four in Liverpool, and three each in West Ham, Portsmouth, Swansea, and Salford. No fatal case of small-pox was registered last week in any of the 33 large towns; and two small-pox patients were under treatment in the Metropolitan Asylums Hospitals on Saturday last, March 11th. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2540, against 2575 and 2584 on the two preceding Saturdays; 217 new cases were admitted during the week, against 202, 241, and 236 in the two preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 484 and 470 in the two preceding weeks, rose again last week to 529, but were 29 below the corrected average The causes of 65, or 1·3 per cent, of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Salford, Leeds, Newcastle-upon-Tyne, and in 11 other smaller towns; the largest proportions of uncertified deaths were registered in Leicester, Liverpool, Blackburn, Halifax, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 24·1 and 25·1 per 1000 in the two preceding weeks, declined to 22·8 during the week ending March 11th, but exceeded by 0·6 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 10·2 in Perth and 18·9 in Dundee to 25·5 in Leith and 28·4 in Aberdeen. The 697 deaths in these towns included 30 which were referred to whooping-cough, 13 to measles, 11 to diarrhœa, five to scarlet to fever, four to diphtheria, and four to "fever." In all, 67 deaths resulted from these principal zymotic diseases, against 64 and 99 in the two preceding weeks. These 67 deaths were equal to an annual rate of 2·2 per 1000, which was slightly above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had been 23 and 31 in the two preceding weeks, were 30 last week, of which 11 occurred in Glasgow, eight in Edinburgh, and seven in Leith. The 13 deaths from measles showed a decline of 20 from the number recorded in the preceding week and included seven in Aberdeen. The five fatal cases of scarlet fever corresponded with the number registered in each of the two preceding weeks and included two in Glasgow and two in Dundee. The deaths referred to different forms of "fever," which had been four and six in the two preceding weeks, declined again to four last week, of which three occurred in Glasgow. The deaths from diseases of the respiratory organs in these towns, which had been 233 and 213 in the two preceding weeks, further declined to 172 last week, and were 15 below the number in the corresponding period of last year. The causes of 33, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased in the three preceding weeks from 27·3 to 31·9 per 1000, declined again to 28·5 during the week ending March 11th. During the past four weeks the rate of mortality in the city has averaged 29·5 per 1000, the rate during the same period being 21·3 in London and 24·9 in Edinburgh. The 191 deaths registered in Dublin during the week under notice showed a decline of 23 from the number in the preceding week, and included 14 which were referred to the principal zymotic diseases, against 12 and 17 in the two preceding weeks; of these, six resulted from "fever," five from whooping-cough, two from diarrhœa, and one from diphtheria, but not one either from small-pox, measles, or scarlet fever. These 14 deaths were equal to an annual rate of 2·1 per 1000, the zymotic death-rate during the same period being 1.8 in London and 2·3 in Edinburgh. The deaths referred to different forms of "fever" which had increased from two to six in the three preceding weeks were again six last week. The fatal cases of whooping-cough which had been two and five in the two preceding weeks were again five last week. The two deaths from diarrhœa also corresponded with the number recorded in the preceding week. The 191 deaths in Dublin last week included 31 of infants under one year of age and 55 of persons aged upwards of 60 years; the deaths of infants showed an increase, while those of elderly persons corresponded with the number recorded in the preceding week. Seven inquest cases and six deaths from violence were registered; and 66, or more than a third, of the deaths occurred in public institutions. The causes of 12, or more than 6 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING FEBRUARY, 1899.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality during February in each of the 43 sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 8·5 per 1000 of the population, estimated at 4,546,752 persons in the middle of this year. In the three preceding months the rates had been 10·8, 9·5, and 9·2 per 1000 respectively. The rates were considerably below the average in Kensington, Westminster, St. James Westminster, Marylebone, Hampstead, St. Martin-in-the-Fields, and Strand; while they showed the largest excess in Fulham, London City, St. Saviour Southwark, Rotherhithe, Woolwich, Lee, and Plumstead sanitary areas. No case of small-pox was notified in London during February, and only two cases of this disease were under treatment in the Metropolitan Asylums Hospitals at the end of last month. The prevalence of scarlet fever in London showed a slight decline from that recorded in the preceding month; among the various sanitary areas this disease showed the

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING FEBRUARY, 1899.

(*Specially compiled for* THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1899.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,546,752	—	1283	991	3	279	5	23	330	—	2964	8·5	—	102	26	149	188	2	56	—	44	567	1·6	7086	20·3	129
West Districts.																										
Paddington	128,794	—	26	17	—	5	—	—	10	—	58	5·9	—	—	1	1	10	—	—	—	3	15	1·5	189	19·1	165
Kensington	172,809	—	20	27	—	5	—	—	18	—	70	5·3	—	—	—	8	11	—	—	—	—	19	1·4	245	18·5	156
Hammersmith	108,785	—	46	8	—	6	—	1	12	—	73	8·7	—	2	1	1	6	—	1	—	—	11	1·3	171	20·5	146
Fulham	130,720	—	69	50	—	7	—	3	13	—	142	14·2	—	1	4	10	1	—	2	—	3	21	2·1	166	16·6	107
Chelsea	96,721	—	30	28	—	3	—	—	2	—	63	8·5	—	1	—	2	10	—	1	—	1	15	2·0	162	21·8	153
St. George Hanover-square	80,876	—	25	7	—	2	—	—	3	—	37	6·0	—	—	—	—	2	—	2	—	—	4	0·6	106	17·1	94
Westminster	62,117	—	4	8	—	4	—	—	1	—	17	4·3	—	—	—	—	1	—	1	—	—	2	0·5	92	23·0	180
St. James-Westminster	21,827	—	1	1	—	3	—	—	2	—	7	4·2	—	1	—	—	—	—	—	—	—	1	0·6	47	28·1	176
North Districts.																										
Marylebone	140,139	—	16	11	—	12	—	1	13	—	53	4·9	—	2	—	3	4	—	2	—	2	13	1·2	237	22·1	80
Hampstead	80,252	—	15	10	—	1	—	—	3	—	29	4·7	—	1	—	—	1	—	—	—	—	2	0·3	72	11·7	66
St. Pancras	244,548	—	46	32	—	9	—	—	25	—	112	6·0	—	17	2	3	12	—	5	—	1	40	2·1	397	21·2	135
Islington	348,085	—	117	33	—	10	1	1	19	—	181	6·8	—	14	2	4	17	—	2	—	2	41	1·5	633	20·0	113
Stoke Newington	35,187	—	11	3	—	2	—	—	1	—	17	6·3	—	—	1	—	—	—	—	—	—	1	0·4	22	8·1	29
Hackney	222,571	—	70	65	—	13	1	5	18	—	172	10·1	—	3	—	10	5	—	2	—	1	21	1·2	277	16·2	87
Central Districts.																										
St. Giles	37,196	—	6	5	—	2	—	—	3	—	16	5·6	—	1	—	—	—	—	2	—	—	3	1·1	58	20·3	40
St. Martin-in-the-Fields	12,142	—	3	—	—	1	—	—	—	—	4	4·3	—	—	—	—	—	—	—	—	1	1	1·1	12	12·9	200
Strand	23,016	—	2	1	—	—	—	—	—	—	3	1·7	—	—	—	—	—	—	—	—	—	—	—	50	28·3	146
Holborn	29,621	—	8	4	—	5	—	—	7	—	24	10·6	—	1	—	2	3	—	1	—	—	7	3·1	70	30·8	270
Clerkenwell	66,068	—	24	10	—	5	—	1	4	—	44	8·7	—	10	—	3	3	—	1	—	3	20	3·9	143	28·2	170
St. Luke	40,868	—	8	8	—	2	—	—	7	—	25	8·0	—	—	—	1	—	—	—	—	1	2	0·6	92	29·4	120
City of London	27,986	—	3	3	—	39	—	—	—	—	45	21·0	—	—	—	—	—	—	5	—	2	7	3·3	43	20·0	162
East Districts.																										
Shoreditch	121,071	—	13	13	—	8	—	1	13	—	48	5·2	—	5	—	2	4	—	2	—	1	14	1·5	227	24·4	161
Bethnal Green	128,938	—	26	30	—	5	—	2	22	—	85	8·6	—	10	1	3	—	—	2	—	2	18	1·8	221	22·3	118
Whitechapel	81,391	—	14	16	—	4	—	—	10	—	44	7·0	—	—	—	3	2	—	1	—	—	6	1·0	153	24·5	115
St. George-in-the-East	46,560	—	4	5	—	2	—	—	7	—	18	4·8	—	—	—	—	4	—	—	—	—	4	1·1	101	27·1	135
Limehouse	68,807	—	15	14	—	6	—	1	8	—	44	9·8	—	5	—	4	1	—	—	—	1	11	2·4	117	25·9	192
Mile End Old Town	113,161	—	27	21	—	8	—	2	10	—	68	7·8	—	3	—	5	2	—	3	—	—	13	1·5	190	21·9	166
Poplar	170,606	—	25	38	—	21	—	—	18	—	102	7·8	—	9	1	5	8	—	1	—	4	28	2·1	295	22·5	152
South Districts.																										
St. Saviour Southwark	24,207	—	5	16	—	2	—	—	1	—	24	12·9	—	1	—	4	1	—	—	—	—	6	3·2	49	26·4	183
St. George Southwark	60,536	—	8	35	1	7	—	—	3	—	54	11·6	—	1	1	10	7	—	—	—	—	19	4·1	163	32·9	180
Newington	124,166	—	20	59	—	3	—	—	9	—	91	9·6	—	3	—	10	21	—	—	—	—	37	3·9	234	24·6	153
St. Olave Southwark	11,098	—	4	1	—	1	—	—	—	—	6	7·1	—	—	—	—	—	—	—	—	1	1	1·2	25	29·4	138
Bermondsey	85,835	—	22	25	—	9	—	—	2	—	58	8·8	—	—	2	6	2	1	3	—	2	16	2·4	177	26·9	175
Rotherhithe	41,050	—	25	7	1	3	—	—	8	—	44	14·0	—	—	—	1	2	1	1	—	—	5	1·6	66	21·0	125
Lambeth	303,108	—	78	99	1	9	1	1	30	—	219	9·3	—	2	4	13	18	—	1	—	3	41	1·7	531	22·5	136
Battersea	174,996	—	46	86	—	7	—	—	14	—	153	11·4	—	—	—	9	1	—	2	—	3	15	1·1	221	16·5	122
Wandsworth	209,655	—	49	36	—	7	—	2	14	—	108	6·7	—	1	1	6	8	—	1	—	1	18	1·1	269	16·7	106
Camberwell	264,817	—	81	64	—	13	2	—	15	—	175	8·6	—	3	2	8	15	—	5	—	1	34	1·7	336	16·5	106
Greenwich	162,513	—	83	34	—	18	—	—	15	—	150	10·7	—	1	—	7	2	—	5	—	4	19	1·4	275	19·6	123
Lewisham (excluding Penge)	91,027	—	30	27	—	1	—	1	7	—	66	9·5	—	—	—	2	1	—	1	—	—	4	0·6	97	13·9	65
Woolwich...	41,642	—	25	11	—	1	—	1	2	—	40	12·6	—	—	—	2	—	—	—	—	1	3	0·9	71	22·3	172
Lee	40,219	—	34	9	—	2	—	—	5	—	50	16·2	—	4	2	1	—	—	1	—	—	8	2·6	42	13·6	87
Plumstead	64,031	—	99	13	—	3	—	—	6	—	121	24·6	—	—	1	—	—	—	—	—	—	1	0·2	52	10·6	88
Port of London	—	—	—	1	—	3	—	—	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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* Including 34 cases of membranous croup.

† Including deaths from membranous croup.

highest proportional prevalence in Hammersmith Fulham, Rotherhithe, Greenwich Woolwich Lee and Plumstead The Metropolitan Asylums Hospitals contained 2535 scarlet fever patients at the end of February, against 3090, 2883 and 2637 at the end of the three preceding months, the weekly admissions averaged 236, against 239 in each of the two preceding months The prevalence of diphtheria in London during February differed but slightly from that recorded in the preceding month, this disease was proportionally most prevalent in Fulham Chelsea St Saviour Southwark, St George Southwark, Newington Bermondsey, Battersea and Lewisham sanitary areas There were 1338 diphtheria patients under treatment in the Metropolitan Asylums Hospitals at the end of February, against 1269, 1239 and 1358 at the end of the three preceding months, the weekly admissions averaged 172 against 173 and 166 in the two preceding months The prevalence of enteric fever in London showed a slight further decline from that recorded in recent months, among the various sanitary areas this disease showed the highest proportional prevalence in St James Westminster, Holborn, London City, Limehouse St George Southwark and Bermondsey The Metropolitan Asylums Hospitals contained 215 enteric fever patients at the end of February, against 286 255 and 249 at the end of the three preceding months the weekly admissions averaged 27, against 45, 36 and 34 in the three preceding months Erysipelas was proportionally most prevalent in Holborn St Luke Bethnal Green St George in the East Limehouse and Rotherhithe sanitary areas The 23 cases of puerperal fever notified in London during February included five in Hackney, three in Fulham, and two each in Bethnal Green Mile End Old Town, and Wandsworth sanitary areas

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis the deaths occurring in the institutions of London having been distributed among the various sanitary areas in which the patients had previously resided During the four weeks ending Saturday, Febr 25th the deaths of 7086 persons belonging to London were registered equal to an annual rate of 20 3 per 1000, against 16 3 16 9 and 17 0 in the three preceding months The lowest death rates in the various sanitary areas were 6 1 in Stoke Newington 10 6 in Plumstead 11 7 in Hampstead 12 9 in St Martin in the Fields 13 6 in Lee, and 13 9 in Lewisham (excluding Penge), the highest rates were 27 1 in St George in the-East 28 1 in St James Westminster 28·2 in Clerkenwell, 28 3 in Strand 29 4 in St Luke and St Olave Southwark 30 8 in Holborn and 32 9 in St George Southwark During the four weeks of February 567 deaths were referred to the principal zymotic diseases in London, of these 102 resulted from measles, 26 from scarlet fever 149 from diphtheria 188 from whooping cough 2 from typhus fever, 56 from enteric fever, and 44 from diarrhœa, but not one either from small pox or from any ill defined form of continued fever These 567 deaths were equal to an annual rate of 1 6 per 1000 against 1 7 and 1 5 in the two preceding months No death from any of these zymotic diseases was recorded last month in Strand sanitary area, in the other sanitary areas they caused the lowest death rates in Westminster, Hampstead Stoke Newington and Plumstead, and the highest rates in Holborn Clerkenwell, London City, Limehouse St Saviour Southwark, St George Southwark Newington Bermondsey and Lee The 102 fatal cases of measles were 69 below the corrected average number in the corresponding periods of the 10 preceding years, this disease showed the highest proportional fatality in St Pancras Clerkenwell Bethnal Green, Limehouse and Lee sanitary areas The 26 deaths referred to scarlet fever were less than half the corrected average number, among the various sanitary areas this disease was proportionally most fatal in Fulham and Lee The 149 fatal cases of diphtheria were 18 below the corrected average number, this disease showed the highest proportional fatality in Kensington Fulham Hackney Holborn Limehouse St Saviour Southwark St George Southwark Newington and Bermondsey sanitary areas The 188 deaths from whooping cough were 65 below the corrected average number, among the various sanitary areas this disease was proportionally most fatal in Paddington Chelsea Holborn St George in the East St George Southwark, and Newington Of the two fatal cases of typhus fever one belonged to Bermondsey and one to Rotherhithe sanitary areas The 56 deaths from enteric fever were 25 below the corrected average number, this disease showed the highest proportional fatality in St. Giles and Bermondsey sanitary areas The 44 fatal cases of diarrhœa were 11 below the average In conclusion, it may be stated that the aggregate mortality in London last month from these principal zymotic diseases was nearly 24 per cent below the average

Infant mortality in London during February, measured by the proportion of deaths of children under one year of age to registered births, was equal to 129 per 1000 Among the various sanitary areas the lowest rates of infant mortality were recorded in Hampstead Stoke Newington, Hackney, St Giles, Lewisham, and Lee, and the highest rates in Westminster, St Martin in the Fields Holborn Limehouse, St Saviour Southwark, and St George Southwark

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

THE following appointments are announced -Staff Surgeons O W Sharples to the *Monarch*, for Ascension Hospital, H Holyoake to the *Australia*, W M Craig to Plymouth Hospital, A S Nance to the *Galatea*, H E Iliewicz to the *Pembroke* and G T Collingwood to the *Hotspur* Surgeons M J O Regan to Bermuda Hospital, S Roach to the *Alert*, E Arkwright to the *Renown*, for the *Columbine* F Folliott to the *Eclipse*, for disposal, B Ley to the *Assaye*, W S H Sequeira to the *Lapwing*, H A Julius to the *Sphinx*, J H Acheson to the *Victory*, for disposal, W H O Garde to the *Victory*, for the *Research*, J G Watt to the *Wildfire* for the *Triton*, J H Pead to the Royal Marine Artillery Eastney O Rees to the *Wildfire*, for the Depôt Walmer, A G Eastment to the *Jason* E Bradshaw to the *Howe*, and I D Lumley to Haulbowline Hospital

ROYAL ARMY MEDICAL CORPS

Lieutenant-Colonel R Drury and Captain D J Collins have been granted six months leave out of India on medical certificate Colonel E Townsend has been granted leave from India to England for eight months Major Butt will shortly embark for service in India Captain C B Lawson is posted to the Western Heights Dover for duty Major Henry J McLaughlin from half pay, to be Major, with precedence next below D F Franklin vice J R Barefoot deceased

ARMY MEDICAL RESERVE OF OFFICERS

Surgeon Lieutenant H C Reid to be Surgeon Captain

MILITIA MEDICAL STAFF CORPS

Surgeon Captain T W Richardson to be Surgeon Major, Surgeon Major T W Richardson resigns his commission, also is permitted to retain his rank, and to wear the prescribed uniform on his retirement Supernumerary Surgeon Lieutenant S Oliver to be Surgeon Lieutenant within the establishment

VOLUNTEER CORPS

Artillery 1st Argyll and Bute Surgeon Lieutenant D J Penney to be Surgeon Captain *Rifle* 1st Volunteer Battalion the Royal Welsh Fusiliers Surgeon Lieutenant T G Jenkins resigns his commission 1st Volunteer Battalion the Sherwood Foresters (Derbyshire Regiment) Surgeon Lieutenant R A Johnston to be Surgeon Captain 1st (Renfrewshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders) Surgeon Lieutenant A Leitch to be Surgeon Captain 1st Dumbartonshire James Reid Foulds to be Surgeon Lieutenant

THE ARMY ESTIMATES DEBATE

In the discussions which have been taking place in the House of Commons on going into Committee of Supply on the Army Estimates attention has been directed to the deplorable falling off in the physique of the general population revealed by the returns for recruiting Among the indications of the lowered health and physique of that portion of the population from which army recruits are mainly drawn Mr Wyndham in his speech on the Army Estimates referred to the number of would be recruits who were rejected on the ground of bad teeth and suggested that in elementary schools supported by public funds it might be possible to teach the pupils to take elementary precautions for the preservation of their teeth Without entering upon the causes neck, the latter being about twice its usual circumference, which had commenced only six months before although there was a history of long previous illness. It is mentioned as a striking feature in the case that it was complicated with stomatitis and copious salivation, against which all therapeutic means proved unavailing. The entire mucous membrane of the lips and mouth was red and swollen with numerous and ever-extending erosions and the inflammation ultimately invaded the pharynx and parts beyond. The patient hawked incessantly, but could not expectorate the accumulating secretion and he died from suffocation, the trachea and bronchi being found post mortem to be filled up with tough mucus. The case was during life regarded as one of elephantiasis and it was not until an article by Virchow on Myxœdema was published in the *Wochenschrift* of the same year, in which this case is recorded (p. 120) that Dr. Zielewicz recognised that he had had an example of the latter under observation.

I am, Sirs, yours faithfully,

Glasgow, March 6th, 1899. ROBERT KIRK, M.D. Edin.

"A CASE OF VOMITING LARGE MASSES OF CANCEROUS MATTER."

To the Editors of THE LANCET.

SIRS,—As you mentioned in one of your annotations in your issue of March 11th the case of vomiting cancerous matter published in THE LANCET of Oct. 3rd, 1896, I was induced to call at the patient's house to see if the patient was still in the land of the living and I was glad to find him this noonday engaged in eating and enjoying a good substantial dinner of meat and vegetables. He suffers occasionally from flatulent indigestion and about seven weeks ago he vomited some blood, but in other respects he feels very well. The blood came up so easily he does not think there was any cancerous matter in it; besides, at the time when the vomiting took place he was at work, and he says he was in his usual working health.

I am, Sirs, yours faithfully,

Lincoln, March 13th, 1899. WILLIAM O'NEILL, M.D. Aberd.

"INSTRUCTION IN ANÆSTHETICS."

To the Editors of THE LANCET.

SIRS,—I should like to be permitted to thank Dr. White for his letter on the above subject in THE LANCET of Feb. 18th. His views on the matter entirely coincide with those which I have long held and which I expressed in detail in a paper read before the Thames Valley Branch of the British Medical Association on March 16th, 1892, and published in THE LANCET of May 28th of the same year. Since the publication of that paper I have been personally responsible for the introduction of systematic instruction in anæsthetics on the lines advocated in three of the London medical schools (Guy's, King's, and the Royal Free) and I have every reason to believe that the teaching has much improved at other places. At Guy's especially the teaching is particularly thorough and comprehensive, for I was able to take advantage of the coexistence of the Guy's Hospital Dental School to afford the student instruction in the administration of anæsthetics for dental purposes as well as for surgical cases. So far, however, but little if any success has attended the attempt to induce the General Medical Council or the examining bodies to make instruction in the subject compulsory. In my humble opinion, and apparently in the opinion of Dr. White, the matter is as well worthy of attention as the abstruse and difficult art of vaccination which is still a subject of special enactment.

I am, Sirs, yours faithfully,

Devonshire-street, W., March 13th, 1899. J. F. W. SILK.

THE NORWICH MEDICO-CHIRURGICAL SOCIETY AND THE NEW VACCINATION ACT.

To the Editors of THE LANCET.

SIRS,—At an ordinary meeting on March 7th of the above society the following resolution forwarded for consideration by the honorary secretary of the Liverpool Medical Institution was endorsed by the Norwich Medico-Chirurgical Society—viz.: "That the members of the Liverpool Medical Institution are of opinion that the Vaccination Act, 1898, was enacted in direct opposition to the findings of the Royal Commission and that the operation of the Act will be prejudicial to the public safety and that its amendment is urgently required." It was also resolved to send a copy of this resolution to the Members of Parliament for this city and the county of Norfolk.

I am, Sirs, yours faithfully,

Norwich, March 11th, 1899. H. C. NANCE, Hon. Sec.

THE GENERAL MEDICAL COUNCIL AND THE MIDWIVES QUESTION.

To the Editors of THE LANCET.

SIRS,—In a leading article in THE LANCET of March 11th I note a statement to the effect that the General Medical Council had postponed the consideration of the question of the subject of granting illegal certificates of proficiency in medicine, surgery, and midwifery. The profession has always suffered from this fatal fault of procrastination on the part of its governing authorities with the result in this case of the country being flooded with all sorts of persons, male and female, who practise small portions of the profession of medicine. These persons are possessed of certificates signed in some cases by members of the profession and in others signed by persons other than those on the Register of medical practitioners.

It is quite clear that the General Medical Council can deal with those members of the profession who sign certificates which are used for the purposes of medical practice and it is their duty to do so. No doubt the certificates are often granted in the first instance for legitimate purposes, but in too many cases the certificates are used for purposes which the signatories did not originally intend. The practical point which I wish to urge is this—that the General Medical Council should issue a notice to the medical profession that in future it will hold the signatories of such documents responsible for the misuse of certificates of proficiency signed by them or issued by their authority. If the Council will take some such step as this we shall, I am confident, see an end of the nurse, the midwife, the masseuse, the oculist, *et hoc genus omne*, as practitioners of medicine. The fault lies at the door of the profession and not at that of the community. It is amusing to contrast the stringency with which penal enactments are enforced against the little men of the profession who are not allowed representation except in a most limited manner and the leniency with which the men who are in touch with the great corporations are treated, and it will be a comfort to see a little reform in the central machinery which is the real spot to be touched.

I am, Sirs, your obedient servant,

Hatfield, Herts, March 12th, 1899. LOVELL DRAGE.

"DIFFICULTIES UNDER THE NEW VACCINATION ACT."

To the Editors of THE LANCET.

SIRS,—I think it is the duty of the family medical practitioner to attend to the vaccination of his patients and many men after returning from a confinement make a practice of entering the infant's name for vaccination purposes in their visiting lists which also generally contain some special columns for that purpose. Surely it is not touting to care for and visit one's own patients when necessary. In matters of medical interest I question if it is not always the duty of the family practitioner to try to safeguard his patient and it is by no means the rule to act as "General Practitioner" thinks. As regards your correspondent's letter signed "P. P.," if your readers will kindly refer to THE LANCET of March 4th they will see that I am misquoted.

I am, Sirs, yours faithfully,

March 12th, 1899. FAIRPLAY.

To the Editors of THE LANCET.

SIRS,—May I point out that in Form H the name and address of the child only is given and when we proceed to send out Form I we do not know to whom to address it?

In a country parish where many different families of the same name reside and in which the only address can be the of the parish, the houses being unnumbered, I fail to ow the notice can be delivered to the right person. It ought to have a column with the name of the or guardian of the child to whom the notice could be

I am, Sirs, yours faithfully,
T. Woods,
Public Vaccinator.

ngham, Dorset.

.—It may be useful to many of your readers to know the vaccine lymph from a capillary tube can be easily safely ejected upon the point of the lancet or other ament by breaking off one end and holding the other in ame of a spirit lamp, thus doing away with the "lymph or."

SALIPYRIN IN INFLUENZA.

To the Editors of The Lancet.

ns,—As far as I can gather this drug appears to be but e known and less used in this country. In Germany its ific action in influenza has already been widely reco- ed. During the present epidemic I have used salipyrin largely and my experience has been such that I think a rapeutic note is justified in The Lancet. Given in a mild e early enough the disease is cut short in a few hours; in at would be a severe case the pain is quickly removed, the perature falls gradually, and, what is most important, re is no collapse, depression, or cardiac weakness from action of the drug. Salipyrin is a salicylate of antipyrin d is supposed to break up in the alimentary canal into icylic acid and antipyrin. It does not appear, however, t the depressing effects of antipyrin are manifested where ipyrin is used; the action seems to be chiefly antiseptic d anti-malarial. I have given it in three-grain tabloids, om three to six grains every three hours, according to the verity of the case.

I am, Sirs, yours faithfully,
A. Butler Harris, M.A., M.B., B.Ch. Oxon.

Loughton, Essex, March 13th, 1899.

HE MIDWIVES' INSTITUTE AND THE BILL FOR THE REGISTRATION OF MIDWIVES.

To the Editors of The Lancet.

Sirs,—The enclosed letter is being laid before the Midwives Bill Committee by the Incorporated Midwives' nstitute.

I am, Sirs, yours faithfully,
Rosalind Paget.

12, Buckingham-street, Strand, W.C., March 14th, 1899

[Inclosure.]

12, Buckingham street, W.C., March 14th, 1899.

To the Chairman of the Midwives' Bill Committee.

Sir,—The Council of the Incorporated Midwives' Institute, after a conference with their members, have requested me as their representative to lay before your committee their views on the present Bill.

The Council of the Incorporated Midwives' Institute consider this Bill inferior to that of last year, but they are, however, so strongly impressed with the urgent need for legislation that they will offer no opposition to the present Bill so long as the following points are insisted on.

1. That the final decision in all cases be in the hands of the central authority (see clause 9, Duties of Supervising Authority, and clause 10, Annual and Local Certificate). They consider with regard to clause 10 that their interests are not sufficiently safeguarded.

2. That their representation on the central board is retained and that an amendment is asked for—"that the nominees of the Privy Council should be two lay persons, one a woman."

3. That the certificate of the London Obstetrical Society be retained as a qualification for licence.

Your committee will doubtless consider that these three points are some of them already dealt with in the Bill and that the others will follow as a natural sequence. The reason the council of the Institute have called your attention to them is because of the amendments to this Bill that have appeared in the *British Medical Journal*, and which will doubtless be largely supported by the medical profession.

The Council of the Incorporated Midwives' Institute consider the machinery of the new clauses to be so complicated that they will prove unworkable and provide only a "nominal" protection to the mother, and the "pretence" of a monopoly of practice to the licensed midwife. They consider the unconscientious midwife will have every opportunity of evading the law, while the conscientious midwife is controlled at every turn and might possibly fall a victim to local jealousy owing to the preponderance of medical representation on the Midwives Board. A further danger is created by the uncertainty regarding the official position of the person to be appointed as local supervising authority.

I remain, Sir, your obedient servant,
Rosalind Paget
Honorary Treasurer, Midwives' Institute, and Representative on the Midwives Bill Committee.

STOCKPORT CENTRE, ST. JOHN AMBULANCE ASSOCIATION.

To the Editors of The Lancet.

Sirs,—Referring to the recent public meeting of the above centre and on the strength of a garbled and one-sided account thereof in the *Stockport Advertiser*, you have seen fit in your issue of 18th inst. to direct certain strictures against members of the profession which you specially represent. In reliance upon your adherence to your motto "*Audi alteram partem*" copies of other newspaper reports are enclosed for your information, together with certain correspondence which may enlighten you as to the true facts. Your inference that it was insinuated that the local secretary of the St. John Ambulance Association was making a profit out of the association merely shows that the proverbial red herring has been drawn across the track. His discourteous attitude towards some members of the medical profession and others interested in ambulance work is the real cause of the present dissatisfaction. *Not only was no insinuation of dishonesty made but the suggestion was repeatedly repudiated.*

Your remark that a public meeting is not the best place for inquiry into such matters represents the view taken by the Medical Society who decided that the local St. John secretary was not to be attacked unless he first assailed the Medical Society or one of its members. This he at once did and was attacked in turn.

I accept the entire responsibility for the statements in this letter, which I request you to publish in fairness to the medical men concerned.

I am, Sirs, yours faithfully,
O. Porter.

Victoria-park, Stockport, Feb. 26th, 1899.

"THE TALLERMAN TREATMENT AND ITS COUNTERFEITS."

To the Editors of The Lancet.

Sirs,—Will you allow me to correct an impression that has been formed through the misleading statements in the press that the Tallerman apparatus is heated by gas only? That apparatus is heated equally well with any heating agent—electricity, gas, or oil—and can therefore be taken anywhere and used with any heating agent available. The first two are in use at the company's institute at Welbeck-street. The Greville electric apparatus is, in which view I am supported by two well-known medical men, the same as an old electric heating apparatus that has been standing in this institute for over three years and was originally surrendered to this company as an imitation by a medical man who accompanied the surrender with a letter binding himself not to infringe the company's rights in a similar manner again.

The introduction by members of the medical profession of this apparatus and others of a similar nature in order to counterfeit the Tallerman treatment by the local application of dry air heated to high temperatures is, having regard to all the circumstances, indefensible, whilst the attempt to deprive me of the credit of inventing this new treatment by writing about the Greville "system" and "method" is an attempt to justify a line of action which, to my way of thinking, is neither in accordance with professional ethics nor in the interests of the profession.

I am, Sirs, yours faithfully,
Lewis A. Tallerman.

Welbeck-street, Cavendish-square, W.,
March 13th, 1899.

Assault on a Public Vaccinator at Yeovil.—At the Borough Petty Sessions held at Yeovil on March 7th a school attendance officer was charged with assaulting Mr. C. J. Marsh, M.R.C.S. Eng., L.R.C.P. Edin., public vaccinator for the Yeovil Union. Evidence showed that Mr. Marsh called upon defendant in reference to the vaccination of his child and asked him whether he would have it vaccinated or not. The defendant declined to answer the question and became abusive to Mr. Marsh and finally told him to go down the steps, pushing him on the shoulder. The bench of magistrates unanimously fined the defendant 5*s*.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh Royal Medical Society.

ON the evening of Friday, March 10th, the annual dinner of the Royal Medical Society was held in the University Union, when about 80 gentlemen dined together. The guest of the evening was Sir William Overend Priestley, M.P., who, in replying to the toast of his health, said that he was quite in agreement with the society in his affection for the University of Edinburgh. He regarded himself as owing everything to Edinburgh University and to Edinburgh itself. He not only owed his education to the University of Edinburgh, but from Edinburgh he carried away a wife with whom he had lived in unclouded happiness for between 40 and 50 years; and, to crown all, the University of Edinburgh had conferred upon him the greatest happiness of his life by making him its representative in Parliament. Since the time when he was a student in the University great changes had come over the place. The whole of their educational facilities were then confined to the quadrangle of the Old University, but since then the new University buildings had sprung up as well as the magnificent new Medical School, the Union in which they were assembled, and the M'Ewan Hall, in which the great celebrations of the University were held. He had the privilege of studying at a time when there was in the University a company of professors such as had never previously been equalled and which perhaps would never be equalled again—Alison, Robert Christison, James Syme, James Young Simpson, Hughes Bennett, Goodsir, William Hamilton, Aytoun, Christopher North, Gregory, and Pillans. He thought that the teaching of Edinburgh University was a model for all other universities in the world. In the University of London, for instance, a pupil might get his education anywhere and simply present himself for his examination, but a university conducted on these lines could be none other than a stepmother to a man; in Edinburgh they had a real *alma mater*. He need not tell a meeting composed so largely of medical men how noble was the profession which they had chosen. It was one which satisfied all the aspirations of an honourable man, and when men settled down to practise, they ought to regard their profession from its higher aspects and look upon the public good as their foremost object. Sir William Gairdner, replying to the toast of "The Scottish Universities," said that these universities had of late been passing through a critical period of their existence. They had been the subject of a very long inquiry held by a Royal Commission and certain changes had been introduced. He had misgivings about these changes in some respects, but on the whole he was prepared to admit that the Commission had done its best, and he trusted that the result would be the placing of the Scottish Universities in a still stronger position than they had hitherto occupied. Though a professor in Glasgow University he was an Edinburgh man. He sincerely hoped that the University of Edinburgh would long maintain its great reputation. In his subsequent remarks Sir William Gairdner spoke of the great change which had come over the system of medical teaching and practice since his student days. Sir William Priestley, in proposing the toast of "The Royal Medical Society," observed that it compared very favourably with the debating societies or unions of Oxford and Cambridge, and that it performed a most useful function not only in exercising its members in the subjects which they were taught, but in training them to be debaters.

University of Aberdeen.

The interesting and valuable museum of Egyptian antiquities collected by the late Dr. James Grant (Bey), A.M., M.D., LL.D. Aberd., and presented by his widow to the University, was formally opened on March 11th, all the articles having been efficiently arranged at King's College together with other curios and antiquities there. An "At Home" was given by Principal Sir W. D. Geddes and Lady Geddes on the occasion.

Measles in Aberdeen.

This epidemic is now declining, the number of new cases reported for the week ending March 11th being 488, as compared with 630 and 602 respectively for the two previous weeks. During the month of February 33, or 12·7 per cent., of the deaths in Aberdeen were due to measles.

Aberdeen District Nursing Association.

During last year 984 of the sick poor were attended to at their own homes, being 196 more than in the previous year.

March 15th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

National Hospital for Consumption for Ireland.

THE annual meeting of the supporters of the National Hospital for Consumption for Ireland, situated at Newcastle, county Wicklow, was held at 6, Stephen's-green, on March 13th. The President of the Royal College of Physicians of Ireland, in moving the adoption of the report, suggested that the attention of Her Majesty the Queen might be called to the advantage which would accrue to the hospital if she was pleased to extend her Royal patronage to it and to confer on it the title of "Royal." The Registrar-General, in seconding the motion, said that the great thing at present was to convince the public that consumption was preventable and curable. If that was done there would be no difficulty in obtaining the necessary funds for a considerable addition to the hospital.

The City of Dublin Hospital.

At the last fortnightly meeting of the Pembroke Urban District Council a letter was read from the directors of the City of Dublin Hospital asking for an increase in the grant to that institution and pointing out that a considerable proportion of the patients came, not from Dublin, but from the Pembroke township. Dr. Cranny proposed that the annual grant should be increased and it was ultimately raised from £100 to £200. There always seemed something Irish and odd about the title "City of Dublin" being applied to the only one of the Dublin hospitals situated outside the city, but the founders of the institution prove to have been wise in their generation and the hospital is now in receipt of an annual grant of £400 from the city corporation and an additional £200 from the Pembroke township.

Death of Mr. M. A. Boyd, M.D. Brux., F.R.C.P., F.R.C.S. Irel.

The death of one of the best known and most highly esteemed of the physicians of Dublin, Dr. M. A. Boyd, took place on March 5th. The deceased who was aged fifty years was apparently in his usual perfect health and was seeing after his patients up to the evening of Monday, Feb. 27th, when he was suddenly attacked with acute pleuro-pneumonia, which proved fatal on the following Sunday. He was for many years one of the physicians to the Mater Misericordiæ Hospital, Dublin; consulting physician to St. Michael's Hospital, Kingston, and to the National Lying-in Hospital. He was the author of many able contributions to the Transactions of the Royal Academy of Medicine of Ireland. Outside the ranks of his profession Dr. Boyd was widely known and exceedingly popular. He was a member of the Royal Irish Academy, as well as of many art societies, where his annual exhibits of clever water-colour sketches taken during his summer holidays will long be missed. He was a popular member of the Ward hunt and, in fact, was out hunting with that famous pack of hounds two days before the commencement of his fatal illness. The sympathy of all classes in Dublin was roused by the pathetic circumstances that the deceased's mother, to whom he had been much devoted and who had been in failing health for some months, succumbed to the shock of her son's death and died a few hours after him. The double funeral which took place on March 4th was very largely attended, the students of the Mater Misericordiæ Hospital being represented by a contingent of over 100 who joined the cortège as it passed in front of the hospital on its way to Glasnevin.

Rotunda Hospital, Dublin.

At a meeting of the governors of the Rotunda Hospital, which took place on March 10th, attention was called to an interesting improvement which the Master is about to introduce in supplying the operation theatre with sterilised air.

Royal Army Medical Corps.

The Secretary of State for War has requested the Royal College of Surgeons in Ireland to nominate Licentiates of the College for commissions in the Royal Army Medical Corps.

Victoria Hospital for Diseases of the Nervous System, Belfast.

At the second annual meeting of the supporters of this hospital, held on March 9th, it was reported that during the year 246 patients had received treatment. The receipts from all sources were £356 4*s.* 6½*d.* and the expenditure had been £224 16*s.* 5*d.*

The Election of Poor-law Guardians.

The annual election of Poor-law guardians for the Belfast Union is shortly to take place and it is interesting to note that there are nine lady candidates, the largest number who have ever come forward. The general feeling in the city is that it would be most desirable that lady guardians should be elected. The Poor-law system in Ireland is in a deplorable condition, the problem of what to do with able-bodied paupers and the question of the great importance of separating young children from associating with the workhouse, either by the establishment of cottage hospitals or boarding-out, demanding the most careful consideration. The feeling is growing stronger that in many questions to be dealt with under the Poor-law system the presence of suitable lady guardians would be of enormous value at the boards.

March 15th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

A New Chair of Gynæcology.

ON Feb. 27th the Chamber of Deputies refused a recommendation of the Committee of Supply with reference to a vote of credit of 18,200 francs for a new chair of Clinical Gynæcology at the Paris Faculty of Medicine. This chair will, however, after all be shortly founded, thanks to the concurrence in the scheme of the municipal council. A committee nominated by the town and the University of Paris met recently and decided unanimously to propose the creation not only of the chair of Gynæcology but also of one in the Clinical Surgery of Children. The candidates most widely spoken of for the chair of Gynæcology are MM. Pozzi, Bouilly, and Richelot. The last named is strongly supported by the municipal council and M. Pozzi who is a senator is the favoured ministerial candidate.

The Parasites of Cancer.

At the meeting of the Society of Biology held on March 4th Professor Curtis of Lille communicated the results of some researches which went to show that the results previously published for some time past upon the inoculable or cultivable parasites of cancer were invalidated by some error in the methods employed. Only recently M. Bra, following in the steps of many other experimenters, has described in great detail a micro-organism which he succeeded in cultivating and which in his opinion was the pathogenic germ of cancer. M. Curtis, however, declared that if one took every precaution to eliminate extraneous organisms and other sources of error neither culture nor inoculation results were obtained. For his own part he employed nothing but absolutely fresh tissues and of such only those which showed no ulceration and had not been accidentally infected. All operative measures must be carried out with speed and quite aseptically. The first condition to observe was to use the tumour tissue within a few minutes of its removal from the body and to take care that even during this short space of time the temperature of the fragment should be kept up. So as to avoid the danger of accidental infection M. Curtis never employed any growth showing the least sign of ulceration, for, to give an instance, in a cancer of the breast experimented on while still warm and which was slightly ulcerated he had found the bacillus coli together with the staphylococcus, both albus and aureus. Another point noticed was this—all new growths, even though not ulcerated, which have anything to do with mucous membrane are always infected with micro-organisms, while ulcerated growths of the vagina or uterus simply swarm with every kind of bacterium. M. Curtis, therefore, decided to use in his experiments no growths other than those of the testicle or the breast and these only when they were quite free from ulceration. It is necessary, according to M. Curtis, not to use any ulcerated growth, any growth springing from mucous membrane whether ulcerated or not, or any growth of any part of the alimentary canal or of the genital passages. All of these give rise to error from accidental infection. M. Curtis made his experiments as soon as possible after the removal of the growth from the body and the inoculations were finished within three-quarters of an hour. The fragment of cancerous tissue was taken from the middle of the growth by means of a specially constructed and carefully sterilised harpoon and inoculations were made sometimes in the peritoneal cavity, sometimes under the skin of the back, and sometimes at the junction of the limbs and the body. The animals used were dogs, rabbits, guinea-pigs, and white rats. Experiments were made with both solid tissue and triturated pulp. Bacteriological experiments were made every time with more than 12 different kinds of culture media, some solid, some liquid and representative of those most usually employed in laboratories. In 25 experiments, all conducted with extreme care, he obtained no definite result either when bacteriological cultivations were employed or by using inoculation experiments in animals. Fragments of tissue enveloped in collodion and placed in the peritoneal cavity of a rat gave a negative result. To sum up, M. Curtis considers that the epithelial cancer of man is neither inoculable nor cultivable by any means hitherto employed and that all observations tending to show the contrary which have been so far published are faulty owing to errors in technique.

Notes on News.

At the meeting of the Academy of Sciences held on Feb. 27th Professor Ray Lankester, whose works have a great reputation throughout France, was elected a Corresponding Foreign Member.

The census of persons practising medicine in France showed at the beginning of the year 1899 a number of 17,735, at the beginning of the year 1898 15,984, thus showing an increase for 1899 of 1751, a figure which is by no means what might have been expected when the very small increase in the general population is taken into existence and which augurs very badly for the future of the medical profession in France owing to the great decrease in disease thanks to the improvements in sanitation.

The Association for the Care of Tuberculous Children held its annual meeting on Feb. 25th, Dr. Herard, member of the Academy of Medicine, being in the chair. The treasurer in his report said that the association at the beginning of the year 1888 had only 12 beds; it now possesses two special hospitals at Armesson and Villiers with 350 beds and two convalescent homes at Noisy and Trémilly. The expenditure is 400,000 francs per annum. In 10 years the association has treated 9514 sick children, representing 326,859 days in hospital and 19,547 consultations. In the near future the convalescent homes will be increased to four in number and the children who have got well will be trained there to agricultural work and other out-of-door occupations which offer the best chance of a healthy future for them.

March 14th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Criminal Anthropology: the Approaching Congress.

THE important debate in the Italian Chamber of Deputies on the Government Bill which has now passed the second reading on "Delinquenti Recidivi" (relapsing criminals) brought into salient relief the steady and sure, if slow, penetration of psychological medicine into what has hitherto been a "juridical preserve." "In Italy," said one of the speakers, "indeed in all other countries except England, crime shows a continuous increase as statistics dating from 1890 demonstrate." England, he proceeded to argue, maintains this honourable position because her legislature seriously and effectively takes note of the predisposing causes and the active incentives to crime and shapes its provisions accordingly. More than half a century ago Dr. Bruce Thomson of the Perth penitentiary insisted on the hereditary and self-evolving character of certain forms of criminality, deducing from his premisses the existence of a criminal class which must be broken up and dispersed or so separated from the conditions favourable to its reproduction as steadily to minimise its numbers and gradually to lose the inveteracy of its "criminal habit." These wise words are beginning to find an effective audience in Italy, where hitherto the "discord between the judiciary police (the 'magistratura giudicante') and the prison administration" has been a promoter and not a counter-agent of the prevailing criminality. But Italy, according to the same speaker, (the Hon. Enrico Ferri, *privat-docent* in Criminal Law and Administration in the University of Rome), must begin at an earlier stage than is necessary in England, Switzerland, or other nationalities economically more favoured. She possesses in numbers sufficient to form a substantive portion of her population a physically and morally degenerate type which, unless subjected in childhood or even infancy to countervailing conditions, reproduces itself with ever intensifying distinctness till there is engendered the "delinquente nato" (born criminal)—not the occasional offender, from whom society has nothing to fear, but the congenital and systematic delinquent who simply multiplies and becomes more dangerous under the merely repressive measures hitherto in practice. In this contention he had the support of other members of the Chamber, not those of medical training and profession merely, but barristers themselves and "publicists" or men of affairs. He was ably followed by Signor Ludovico Fulci who, while confirming the statement as to the increase of crime, denounced the prevailing penal system as feeding the malady it meant to destroy; and by Signor Venturi who agreed with Professor Ferri that "delinquenza è una malattia" (crime is a disease) in the class whose conditions the Chamber was considering—the "recidivi." I need not go into the minor details of the discussion—most interesting psychologically and socially as they often were—the uselessness or worse of deportation over sea, for instance, a system abandoned by all but France, or the utilisation of criminal hands in the reclamation of malarious localities, on which Signor Bonacci gave most instructive evidence, especially as to the employment of such labour by the Trappist Brothers of the Tre Fontane. Rather would I point out the significance of the whole debate in view of the International Congress of Criminal Anthropology to be held next August at the Hague, at which not a few of the members of the Italian Legislature will intervene and contribute to its discussion something more than the "vivacity" and the "theoretical dogmatism" which enlivened if it did not enlighten the Congress at Geneva in 1896. The triennium which has elapsed has been exceptionally full of incidents on which the criminal anthropologist can speak with relevance and authority—incidents which, like the organised political assassinations and the riots promoted under kindred auspices, have led to "Leagues against the Knife" and other palliative attempts culminating in the International Congress for the Repression of Anarchism which concluded its sittings in Rome just before Christmas. These "attempts," palliative or repressive, have been without medical inspiration or have partaken so little of the "medical mind" as to require all the supplementary and corrective handling which the Congress of Criminal Anthropology can so amply provide. The literature alone that has accumulated on the "genesis and conditions of crime, occasional or systematic, social or international," would of itself suffice to give directness and precision to the proceedings—literature in which pyschological medicine is largely and ably represented as well as advanced with an authority which neither jurist nor civil legislator can afford to ignore.

March 12th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Plague in Jeddah.

BUBONIC plague has now made its appearance in Jeddah for the third time, some cases having been discovered on Feb. 22nd by Dr. Xanthopoulidis, sanitary medical officer of the town. Before formally notifying the fact he made a bacteriological examination and found the plague bacilli. He also prepared cultures and made inoculations so that the diagnosis was placed beyond doubt. Since the abovementioned date there have been six deaths from the disease. The Jeddah authorities assert that the houses in which these deaths occurred were not occupied by plague patients either during the present year or in the previous epidemics but it remains a question whether the said authorities had knowledge of all the houses in the town where plague cases existed. If in civilised countries the notification of zymotic diseases presents difficulties what may be expected of notification in Jeddah? In addition to the unwillingness of the inhabitants to give such information their religion forbids a woman's dead body to be exposed in sight of a man. In all probability there were many houses in Jeddah in which plague existed unknown to the local authorities. Last year after the departure of the pilgrims the Turkish authorities undertook the disinfection of Jeddah, and it was at first proposed to disinfect all the houses without any distinction, but in the result it was only the few houses in which plague was known to have occurred that were disinfected. The plague was not imported by the pilgrims who proceed to "Hedjaz" through Jeddah, for they undergo a ten-days' quarantine at the lazaretto of Camaran, where their belongings are thoughly disinfected. The disease was imported by "sanitary smuggling," which is rife on those shores of the Red Sea. The outbreak of plague in Jeddah at this moment acquires a great importance on account of the pilgrimage to the Mahommedan holy cities, Mecca and Medina. In the latter two cities no case of plague has been observed in the last two pilgrimages. It is to be hoped that the present year will be equally exempt, with which object in view the authorities of the "Hedjaz" are doing their best to prevent the spread of the epidemic and Dr. Cozzoni, Inspector of the International Sanitary Commission, is proceeding to Jeddah for the purpose of superintending the work. The measures adopted will be as follows: (1) the town of Jeddah with its surrounding villages will be isolated by a sanitary cordon; (2) the infected houses will also be isolated by a sanitary cordon, in addition to which the belongings of all plague patients will be burned, distilled water will be supplied for drinking purposes, and all the sanitary steps *decided on last year* will be put in operation; (3) the pilgrims who are at this moment at Jeddah will be removed to the island of Abas-Saad where they will await further instructions; (4) no pilgrims or passengers will be allowed to leave Jeddah for Mecca until buildings have been erected at Bab-el-Mecca (Mecca Gate), where they will undergo quarantine; (5) pilgrims arriving at Jeddah must land at a new wharf which is being constructed at a place six miles north of Jeddah; the pilgrims for Mecca will land there and proceed straight to Mecca without having any communication with Jeddah; and (6) in other ports of the Turkish empire arrivals from Jeddah will be subjected to 10 days' quarantine.

Small-pox and Influenza.

Small-pox has been excessively prevalent in Constantinople for some time now and is very fatal. The people disregard the law which makes vaccination compulsory, although the Government has given stringent orders that its provisions are to be carried into effect and no fees are charged. There is also a good deal of influenza, but not so much as in some other capitals. The deaths from influenza are not registered in the *Bulletin de la Mortalité* published every week by the sanitary board. Only the deaths from acute inflammation of the lungs are registered; the number of these deaths is about 50 per week.

Chemical Analysis in the Custom-house.

Many years ago the custom-house authorities seized a large quantity of quinidine imported as sulphate of quinine and it was then ordered that all samples of quinine should be analysed in the custom-house. In course of time other medicines were directed to be analysed and the system was at last extended to a variety of imported products, such as flour, wine, oil, soap, &c., which, unless they were of a quality satisfactory to the chemists, were not allowed to pass through the custom-house into the possession of the merchants. Large quantities of imported goods were declared by the chemists to be prejudicial to health, but the trading community was not of their opinion and after some difficulty it was arranged between the Government and the foreign representatives (embassies, legations, and consulates) that the custom-house analyses should be made in the presence of a chemist acting on behalf of the merchants. This checking of their methods by a foreigner was highly distasteful to the custom-house officials and has not prevented great quantities of goods being stored in the custom-house for many months, delivery to the merchants being refused on account of the alleged inferior quality of the articles. The officials wished to forbid the importation of American flour of the best quality, containing more than 15 per cent. of gluten, but the American consulate, supported by the American Legation protested vigorously and the flour has been delivered to the consignee. Merchants, who are not protected by legations as the Americans are, have to submit to the detention of goods, even of excellent quality, at the custom-house.

March 2nd.

Obituary.

SIR DOUGLAS GALTON, K.C.B., D.C.L., LL.D., F.R.S.

THE profession of medicine had not the honour of numbering the late Sir Douglas Galton among its members, but nevertheless many aims and objects were common to both. The occasion of the death of Sir Douglas Galton affords a fitting opportunity for us not only to put on record our sense of the loss which the public and the profession have sustained but to touch upon a few of the lessons to be derived from a scientific career and the application of high scientific attainments directed for the most part to purposes from which we all benefit but about which so few of us are mindful. Sir Douglas Galton was a many-sided man. His energy was great and the amount and varied nature of his work were remarkable. Railways, fortification, ordnance survey, submarine telegraphy, schemes for London sewage disposal, the designing of hospitals, the ventilation and warming of houses, and work in connexion with secretarial duties at the War Office, Her Majesty's Office of Works, the British Association for the Advancement of Science and the Royal Society made up his life-history. But it was his keen interest in all matters affecting public health and his practical knowledge and scientific attainments which made him an authority on hospital construction, sanitation, ventilation, and the hygienic management of public buildings. His main aim was to substitute scientific formulæ and deductions derived from experimental observations and accurate data for the rule-of-thumb laws and more or less vague generalisations on which systems of sanitation at one time rested and to put sanitation upon a scientific plane—in brief, to make a sanitary science properly so called. Of course he was neither the first nor was he alone in striving to do this, but he was nevertheless among the pioneers and he happily lived to see not only how much had been accomplished, but to realise how much more was really comprehended in sanitary science than was circumscribed within its merely apparent limits. As a lake or river often unexpectedly overflows its banks so does the rapid growth and increased application of a scientific branch of study sometimes overstep the limits of the terms in which it is expressed. If in this and other scientific work Sir Douglas Galton cannot be credited with many original investigations or discoveries he always maintained an appreciative mind for them. He at once recognised the importance of following and utilising nature's method in the biological system of treating sewage, for example. It is not easy to describe Sir Douglas Galton's career because of the number and variety of the posts which he occupied, but a mathematical turn of mind and a love of physical science formed the thread on which all his scientific studies and occupations were strung. Still, he was not by any means a mere foot-rule philosopher; the salt of humour flavoured his intellectual soil; he was eminently fair-minded, and a judicious and well-read, genial man. He was a Rugby boy at the time when Dr. Arnold made its reputation and his own and when the author of "Tom Brown's Schooldays" was gathering together the material and incidents for that work. He went to Woolwich and after a most distinguished and successful career passed out of the Royal Military Academy into the Royal Engineers. Among other things it may be mentioned that he was instrumental in getting the Barrack Works Committee of 1862 appointed by the then Secretary of State for War. This was not an altogether popular measure at the time, but it was the means of leading to great and beneficial changes, in that it fixed individual responsibility upon all those connected with the execution of public works. From the time of the Crimean War almost up to that of his death Sir Douglas Galton was keenly interested in all that related to army sanitation and practical hygiene and he did a great deal in common with Dr. John Sutherland, Sir Robert Rawlinson, Professor Parkes, and others to bring about the immense change which has taken place during the last 40 or 50 years, with what results may be more readily appreciated by the following contrast. In the report of the Royal Commission of 1858 it is stated that the rate of mortality in the army at home was 17·6 per 1000, whereas in 1897 it was only 3·42 per 1000, and the provision of hospital accommodation in our home garrisons, which was at the rate of 10 per cent. of the strength, has now, we believe, been reduced to six per cent. Turning to the European army in India the mortality rate prior to 1857 reached 69 per 1000, according to the report of the Royal Commission of 1863, whereas it was only 14·84 per 1000 in 1896 according to the report of the Sanitary Commissioner with the Government of India for that year. It cannot, of course, be claimed that these results are solely attributable to improved sanitation, for numerous other changes have taken place which have largely contributed to bring them about—in the way of short service, the better feeding, clothing, and equipment of soldiers, increased facilities for invaliding, and so forth. Still, improved sanitation and better barrack accommodation and other hygienic measures too numerous to mention are to be largely accredited with the vast change that has taken place. If we had to point to a practical illustration of the beneficial effect of measures of a purely sanitary kind we probably could not select a better one than the contrast between the prevalence of ophthalmia as it was in the army many years ago and as it is now. There was a time when ophthalmia was an army scourge. Soldiers in other respects healthy were to be found suffering from ophthalmia in most of our military hospitals at home and abroad and were constantly being invalided from that cause. In towns and villages there might be encountered discharged soldiers whose slow steps, shuffling gait, contracted brow, and watery eyes proclaimed the nature of their complaint. But better barracks and improved ventilation and lavatory arrangements have practically banished the military form of ophthalmia once so prevalent just as epidemics of typhus fever have ceased to appear in our midst. Sir Douglas Galton was a member of the Army Sanitary Committee from its beginning and was the possessor of numerous academical and scientific titles and distinctions. He was made F.R.S. in 1863, and became the President of the British Association for the Advancement of Science and delivered the presidential address in 1895, besides being a D.C.L. of Oxford and LL.D. of Durham and Montreal. He was made a K.C.B. in 1887.

FRANCIS NOTTIDGE MACNAMARA,

M.D. ST. AND., M.R.C.S. ENG.,

RETIRED SURGEON-MAJOR I.M.S.

DR. FRANCIS NOTTIDGE MACNAMARA, whose death occurred on the 5th of this month, as we have already reported in these columns, was a distinguished physician and sanitarian whose best work was done in India. He received his medical education at King's College, London, and in 1853 entered the Indian Medical Service. While quite a young man he was selected by the East India Company to be Professor of Chemistry at the Calcutta Medical College, a post which carried with it the appointment of Chemical Examiner to the Indian Government. He interpreted his duties in each capacity in the most liberal way, devoting 17 of the best years of his life to carrying on numberless sanitary, chemical, and pathological investigations. He was early to point out the danger to a community of using drinking-water that was exposed to the infection of cholera and was one of the initiators of the present scheme by which Calcutta is supplied with pure water. Upon his return to England in 1870 he left the service, but he was appointed Examiner of Medical Stores at the India Office—a post which he was about to resign when he died at the age of 67 years.

Dr. Macnamara embodied his great knowledge of India in his work, "Climate and Medical Topography in their Relation to the Disease Distribution of the Himalayan and Sub-Himalayan Districts of British India," while he contributed many valuable monographs on pathological and chemical subjects and on the disease of warm climates to medical literature.

The following appreciation of Dr. Macnamara is from the pen of his old friend and colleague, Sir Joseph Fayrer:—

"In THE LANCET of March 11th I read with great regret a short paragraph announcing the death of Dr. F. N. Macnamara of the Bengal Medical Service. I little thought when quite recently I st[illegible] mutual friend and coll we should so soon have to deplore the loss of this eminent medical officer, one whose whole life claimed the admiration of his numerous friends and brother officers and who through a long and distinguished career had rendered services of the greatest importance to the country and people in and among whom his useful life had for so many years been spent. The value of these services, though as unostentatiously as earnestly rendered, was thoroughly appreciated though they never that I am aware of received the public recognition they merited, yet they will long be gratefully remembered by the students and Dr. Macnamara's colleagues in the Medical College of Calcutta of which he was so brilliant an ornament, as by all to whom his noble personal character and courteous bearing endeared him. These services, of the greatest scientific importance, were not limited to India, for on his retirement some years ago he was appointed a member of a committee to inquire into and regulate the supply of drugs and medical stores to India and as a result of that inquiry he was appointed by the Secretary of State to supervise the administration of a new department which has worked most satisfactorily and beneficially both to the Government and India and well merits recognition of its importance and value. As an old friend and colleague as well as an admirer of his valuable services I desire to pay this brief tribute to his memory."

JAMES WILLIAMSON, M.D. ST. AND., L.R.C.S. EDIN., L.S.A.,

FORMERLY OF SOUTH SHIELDS.

THE death is announced of Mr. James Williamson, M.D. St. And., L.R.C.S. Edin., L.S.A., at the ripe age of 84 years. Dr. Williamson was the son of a Baptist minister of North Shields, but he was born at Littleborough, near Rochdale. He became the pupil of Messrs. Ingham and Greenhow of North Shields, of whom he always spoke in terms of great respect. He studied in Edinburgh. While yet a medical student and in the interval of sessions he, in accordance with a not uncommon custom of those days, sought employment as surgeon to a well-known Greenland whaler, *The Lady Jane*, which sailed in 1835 from the Tyne. The good ship was unfortunately detained in the ice in Davis Straits from Oct. 5th of that year to Feb. 19th, 1836. On the last-named day a gale of wind broke up the ice and blew *The Lady Jane* into the open sea. In those days no provision for such detention in ice-bound waters was made and the results to the crew were disastrous. They had to live for months on a biscuit a day and 27 of the crew died from scurvy. Only 16 men were left to work the ship to the Orkney Islands where they were all placed in the hospital and sent home to North Shields. This experience made an indelible impression on Dr. Williamson who was the last survivor to tell the story, which he did on occasions, haltingly, but with weird effect. After qualifying in Edinburgh he became resident surgeon to the Dispensary of South Shields. Thereafter he was appointed surgeon to the Jarrow Chemical Company—an office which, with a considerable private practice, occupied all his time. In South Shields he was universally respected alike by the public and the profession. About 22 years ago his energy and health failed somewhat and he retired from practice, settling down in Petherton-road, Highbury, London, N., where he died. In 1897 he celebrated his golden wedding. Mrs. Williamson, three daughters, and two sons, one of them being Dr. James Mann Williamson of Ventnor, survive to feel a loss which, by care and affection, they have done much to postpone. Dr. Glover of Highbury writes to us as follows:—

"I should like with your permission to say a few words about my late and most esteemed master, Dr. Williamson. He was a most honourable example of the general practitioner of his day. He never ceased to take an interest in the profession and in the great revolutions of practice which his long age enabled him to witness. With traces of the old sailor in him dating from his Arctic adventure he was in all respects a gentleman. His tastes were classical. His practice was arduous. His prescriptions were practical. His principles were deep and religious. He was born on Dec. 9th—Milton's birthday. Though he did not much affect poetry he was Miltonic in his Puritanism, his religion being simple in its strong faith and in all the virtues which grow out of such faith. Though a staunch Nonconformist he was conservative in his religious creed and in his resistance to such views as Darwin's, but on all ordinary subjects he was liberal almost to the degree of being radical. As a friend he was invaluable and unchanging and taken for all in all, I do not expect to meet a man more kind, more upright, or more devout."

JOHN ROSE, M.D. ABERD., L.R.C.S. EDIN.

ON March 7th, at the age of 76 years, Dr. John Rose of Dale Bank, Chesterfield, passed away peacefully and painlessly in his sleep. He had enjoyed good health most of his life and was of a most happy and contented disposition, and he took delight in helping those to whom he was able to be of service either in a professional or in any other capacity. A few years ago it was found that the valves of his heart were not quite sound and he was enjoined to take life easily, which his circumstances fortunately enabled him to do. Dr. Rose never married. His domestic affairs were managed by his niece who tended him most devotedly and his declining years were passed in absolute comfort, the state of his health allowing him to go about up to the end. Dr. Rose was a good Churchman, a staunch teetotaler, a true friend, and an honest, upright man. He was born at Perth House, Banff, on Sept. 20th, 1822. His university education was received at Aberdeen where he graduated as M.A. at King's College in 1840 and at Marischal College as M.B. in 1846 and M.D. in 1847. He also took the diploma of L.R.C.S. Edin. in 1846. He then passed his examination for the Royal Navy and was stationed for some time at Haslar Hospital. He was surgeon on H.M.S. *Frolic* in the Mediterranean and staff surgeon on H.M.S. *Flying Fish* and H.M.S. *Nimrod* during the China war in 1857-58, being awarded a medal with two clasps for services rendered at that time. He was staff surgeon to H.M.S. *Eagle* in 1859. He was author of "Letters from the Mediterranean," "Notes on China," and numerous articles and reports of medical and surgical cases in the medical journals. On retiring from the naval service he became resident surgeon to the Kidderminster Infirmary, where he remained nine years, leaving that for a similar appointment at the Chesterfield and North Derbyshire Hospital—a post which he held for 23 years. Upon relinquishing the active duties of the latter office he was made honorary consulting surgeon to the hospital and he settled down at Dale Bank, where he died. Botany was a very favourite study with him all his life and he derived much pleasure from it during his later years. He was interred on March 11th in the churchyard of the picturesque village of Ashover.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Angelo Knorr, one of the *privat-docenten* teaching bacteriology in Munich, while engaged in the investigation of glanders had the misfortune to contract the disease, which proved fatal. He was formerly assistant in the Berlin Institute for Infectious Diseases.—Dr. H. M. Tarnovski, Director of the St. Petersburg Maternity Hospital.—Dr. Manoel Joaquim Saraiva, Professor of Hygiene in the University of Bahia.—Dr. James Henry Etheridge, Professor of Midwifery in the Rush Medical College, Chicago.

LITERARY INTELLIGENCE.—The Cambridge University Press is about to publish a new work on "Fermentation" from the pen of Professor Reynolds Green. The subject will be treated more broadly than has been usual, a good deal of space being devoted to a discussion of the relation of the soluble ferments or enzymes to the general problems of fermentation. The author inquires also into their own special peculiarities and the resemblances and differences between them and the so-called organised ferments or microbes. The book will form the next volume of the Biological Series which is now appearing under the editorship of Mr. A. E. Shipley, of Christ's College.—Messrs. Baillière, Tindall, and Cox have in the press a new edition (the third) of Sir William Broadbent's "Diseases of the Heart," with additional chapters and illustrative cases; a new work by Sir Richard Thorne Thorne on "The Administrative Control of Tuberculosis"; a new work by Mr. Berkeley Moynihan, F.R.C.S. Eng., Arris and Gale Lecturer at the Royal College of Surgeons of England, on "The Anatomy and Surgery of the Peritoneal Cavity," and several new editions of well-known works.

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE.—*Giessen:* Dr. Julius Geppert, Assistant in the Bonn Pharmacological Institute, has been offered the Chair of Pharmacology.—*Greifswald:* Dr. August Bier of Kiel has been appointed to the Chair of Clinical Surgery in succession to Dr. Helferich.—*Pisa:* Dr. Augusto Ducrey has been promoted to the Ordinary Professorship of Dermatology; Dr. Landi has been recognised as *privat-docent* of Medical Pathology; Dr. G. Tasini as *privat docent* of Surgical Pathology and Operative Medicine; and Dr. Arnaldo Fumagalli as *privat-docent* of Ophthalmology.—*Prague (German University):* The vacant chair of Midwifery and Gynæcology has been offered to Dr. Leopold of Dresden who was formerly professor in Leipsic but he has declined it.—*Strasburg:* Dr. Oscar Roemer has been recognised as *privat-docent* of Odontology, and Dr. Heinrich Ehret as *privat-docent* of Internal Medicine.

MEDICAL LONGEVITY.—Surgeon-Major John Bowron who died at Hove on March 5th entered the East India Company's service as a medical pupil in the year 1813 and was promoted to be an assistant-surgeon on the Bengal establishment in 1825. He retired from the service in 1851 with the rank of surgeon-major.

PRUDENTIAL ASSURANCE COMPANY, LIMITED.—The recently published accounts and balance-sheets show that the business of this prosperous company increased considerably during 1898. In the ordinary branch the number of policies issued during the year was 64,709, assuring the sum of £6,420,580 and producing a new annual premium income of £353,113. The premiums received during the year were £2,957,501, being an increase of £193,237 over the year 1897. The claims of the year amounted to £975,012. The number of deaths was 5191 and 2535 endowment assurances matured. The number of policies in force at the end of the year was 534,138. In the industrial branch the premiums received during the year were £4,960,756, being an increase of £167,165 The claims of the year amounted to £1,891,039. The number of deaths was 193,308 and 2181 endowment assurances matured. The total number of policies in force at the end of the year was 12,949,679; their average duration exceeds eight and a half years. The assets of the company in both branches are £33,599,708, being an increase of £3,161,371 over those of 1897. Provision has now been made for all policy-holders in the industrial branch who have been assured for 25 years to be free from the payment of further premiums as they attain the age of 75 years.

OVERCROWDING AT STOCKPORT WORKHOUSE.—Mr. Dansey, the Poor-law inspector for the district, addressed the guardians at the last meeting of the Stockport Board on a proposal for relieving the overcrowding of the workhouse at Shaw Heath. This was the erection of a three-storey brick building to accommodate 100 sick inmates at a cost of £1800. He did not know whether it was seriously meant or whether it was a very laboured joke. His experience was that the accommodation for sick and infirm persons cost at the lowest £80 a bed instead of £18, but irrespectively of the cost the Local Government Board would not sanction the erection of any more permanent buildings on the site of the present workhouse. He said: "The accommodation for the sick at the Stockport Workhouse was a disgrace to any public institution," which scathing remark was endorsed by the chairman and another of the guardians Mr. Dansey said they had no right to mix different classes of sickness as they did and nearly every ward had too many beds Notwithstanding these strong remarks one of the guardians tried to support the proposition to build a hospital of 100 beds for £1800 by saying "that three competent architects and a number of builders" declared it could be done and he was backed by others. Dr. E Rayner said that "some parts of the workhouse were more suitable for animals in the zoological gardens than for the accommodation of the people now occupying them." From this it may be inferred that they are not fit for the animals in the zoological gardens, as the managers of such places have more liberal views and study the requirements of the creatures under their care with more intelligence and greater humanity than the Stockport Board of Guardians is pleased to exhibit.

HOSPITAL SUNDAY IN BRISTOL.—Jan. 29th was observed in Bristol as Hospital Sunday when the sum of £1492 was raised for the various medical charities of that city. This is an increase of £374 as compared with 1898.

UNIVERSITY OF CAMBRIDGE.—The following medical degrees were conferred on March 11th:—Doctor of Medicine: R. D. R. C. Atkins, of Clare College; and H. C. Pattin, of Jesus College. Bachelor of Medicine and Bachelor of Surgery: F. J. Lidderdale, of Trinity College; H. M. Hart-Smith, of Caius College; and A. C. Jordan, of Sidney Sussex College. Professor Sims Woodhead received the degree of Master of Arts *honoris causa* on March 16th.

THE LATE MR. R. W. PENDLETON.—Mr. Richard Warren Pendleton, M.R.C.P. Irel., son of the late Captain Henry Pendleton, Co. Meath, Ireland, died on March 4th at his residence, Sillwood Lodge, Brighton. He commenced practice in Liverpool, but ill-health compelled him to go to Port Augusta, in South Australia, where he remained for eight years Whilst there he met with a carriage accident which seriously affected his spine and permanently impaired his health. In 1887 he returned to England and after undergoing treatment he started a medical home at Brighton. His death was due to double pneumonia which lasted only five days. He was 58 years of age and by his wonderful patience in suffering he endeared himself to all who knew him.

DIPHTHERIA IN LONDON.—The amount of notified diphtheria in London during the second period of four weeks of the current year was almost identical with that of the first period ended on Jan. 28th. In the January period there were 959 notified cases and 957 in the February period, the respective weekly averages being 240 and 239. In January there was but one district uninvaded, as also in February. In January four sanitary districts had each upwards of 50 notified cases, with an aggregate of 289; in February there were five such districts with an aggregate of 365 notified cases, whilst other five districts had only nine cases in all. The 125 registered deaths of the January period, averaging 31 per week, gave place to 150, or 37 per week. The 150 were made up of 32 (being 14 below the corrected decennial average of the corresponding week of the period 1888-97), 49 (being 8 in excess of the average), 40 (identical with the average), and 29 (being 13 below the average). The case mortality of 13 0 per cent. of the January period was succeeded by one of 15 6 per cent. in the February period. In the Outer Circle the data were of serious import. The 57 deaths in the earlier period gave place to 70, or 17 per week. In other words, the suburban ring yielded nearly half as many deaths as the whole of the county of London with its much greater population. But if this be said of the fringe of London as a whole much more must needs be said of the single area of the West Ham registration district. Herein were 20 deaths in the January period, but as many as 38 in the February period, a little over a fourth of the diphtheria death-rate for the whole of London and 17 per cent of the whole of the diphtheria deaths in the four weeks in Greater London. The matter calls for serious notice.

Parliamentary Intelligen

NOTES ON CURRENT

The Lee Conservancy Board

THE London County Council has withdrawn
Bill the clauses relating to the Lee Conservancy
assurance that the Board will itself introduce a
tion in such a manner as to make it rep
of the River Lee

Tuberculosis

The debate on tuberculosis and on the reports of the
which had been arranged to take place in the House
Tuesday, March 14th, was postponed owing to the
appropriating the time of private members for its own

HOUSE OF COMMONS

THURSDAY, MARCH 9TH.

The New Cantonment Rules in India

Major RASCH asked the Secretary of State for India
of the facts stated in the Army Medical Report of 1897

Hitchins, Charles Vernon, M.R.C.S., L.Sc., has been re-appointed Medical Officer of Health to Weston-super-Mare.

Horder, Thomas J., M.B. Lond., M.R.C.P., has been appointed Casualty Physician to St. Bartholomew's Hospital, London.

Jee, Joseph, C.B., V.C., M.R.C.S., has been appointed an Honorary Surgeon to the Queen.

Mallam, W. A., L.R.C.P. Lond., M.R.C.S., has been appointed out-door Medical Officer to the Eastern District of the Parish of Hampstead.

Milner, James, L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer to the Bradenham Sanitary District of the Swaffham Union.

Palmer, A. M., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Whittington Urban District Council.

Pershouse, F., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Bradwell Sanitary District of the Maldon Union.

Steele, H. F., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer to the Oxborough Sanitary District of the Swaffham Union.

Stone, R. D. Alges, L.R.C.P.&S. Irel., has been appointed Medical Officer of Health to Kelston by the Keynsham Urban District Council, vice W. Vernon resigned.

Tarr, William, M.B., Ch.B. Edin., has been appointed Junior House Surgeon to the Johannesburg Hospital.

Thomas, A. W., L.R.C.P., L.R.C.S., has been re-appointed Medical Officer of Health for the Swaffham Urban Sanitary District.

Tinley, Thomas, M.D. Durh., M.R.C.P. Edin., L.F.P.S. Glasg., has been re-appointed Medical Officer of Health by the Whitby Urban District Council.

Tinley, W. E. F., M.D. Durh., B.S., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Officer by the Whitby Urban District Council.

Todd, G. D., L.R.C.P. Edin., M.R.C.S., has been appointed District Medical Officer to Selby and the Union Workhouse by the Selby Guardians.

Tubb, Thomas J., L.R.C.P. Irel., L.R.C. Edin., D.P.H., has been appointed County Medical Officer of Health for Wiltshire.

Wade, Reginald, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health by the Highbridge Urban District Council.

Walsh, L. H., M.B. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Assistant Physician to the Royal United Hospital, Bath.

Wood, W. D., L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer of Health by the Caversham Urban District Council.

Wylie, D. S., M.B., Ch.B., has been appointed Junior Resident Medical Officer to the Manchester Children's Hospital.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

Belgrave Hospital for Children, 77 and 79, Gloucester-street, London, S.W.—House Surgeon for six months. Board and residence provided and a gratuity of £5 given.

Birmingham and Midland Free Hospital for Sick Children, Birmingham.—Ophthalmic Surgeon.

Blackburn and East Lancashire Infirmary, Blackburn.—Junior House Surgeon. Salary to commence at £50 per annum, with board, lodging, washing, &c.

Borough Hospital, Birkenhead.—Junior House Surgeon. Salary £60 per annum, with board and lodging, but no wine, spirits, or beer.

Bracebridge Asylum, Lincolnshire.—Senior Assistant Medical Officer, unmarried. Salary £150 per annum, with furnished apartments, board, attendance, and washing. Applications to the Clerk to the Visitors, Bank-street, Lincoln.

Brixton Dispensary.—Resident Medical Officer for two years, unmarried. Salary £150, with furnished apartments, attendance, coals, and gas. Applications to the Secretary, Water-lane, Brixton, S.W.

Central London Ophthalmic Hospital, Gray's-inn-road, W.C.—House Surgeon. Residence, board, &c., in the hospital.

Charing-cross Hospital, London.—Resident Medical Officer. Salary £100 a year, with board and residence.

Chester General Infirmary.—Visiting Surgeon for two years. Salary £80 per annum, with residence and maintenance in the house.

Cumberland and Westmorland Asylum, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £100 a year, with board and residence.

Derby County Asylum.—Assistant Medical Officer. Salary £100, rising to £120, with board, lodging and washing.

Dinorwic Quarry Hospital.—Assistant to act as Assistant Surgeon. Salary £150 a year, with half midwifery fees attended by him. Applications to Mr. Roberts, Dinorwic Quarry Hospital, Llanberis, North Wales.

East London Hospital for Children and Dispensary for Women, Shadwell, E.—Medical Officer for the casualty department for six months. Salary at the rate of £100 per annum.

Glasgow Eye Infirmary.—Resident Assistant House Surgeon. Salary £50, with apartments and board.

Heigham Hall Asylum, Norwich.—Assistant Medical Officer.

Holbeach Union.—Medical Officer for the Gedney Hill District. Salary £50 and usual fees. Applications to the Clerk to the Guardians, Holbeach.

Hospital for Consumption and Diseases of the Chest, Brompton.—Resident House Physicians.

Liverpool Infirmary for Children.—Assistant House Surgeon for six months. Salary £25 for that period, with board and lodging.

Liverpool Northern Hospital.—Resident House Surgeon's Assistant for six months. Board and lodging provided.

Manchester Royal Infirmary (Barnes Convalescent Hospital), Cheadle.—Clinical Assistant at the Barnes Convalescent Hospital for six months. Board and lodging provided.

North London Hospital for Consumption and Diseases of the Chest, Hampstead and Fitzroy-square, W.—Junior Non-resident Medical Officer for six months. Honorarium at the rate of £45 per annum. Applications to the Secretary, Offices, 41, Fitzroy-square, W.

North Ormesby Hospital, Middlesbrough.—House Surgeon, non-resident, single. Salary £200.

Parish of Birmingham.—District Medical Officer. Salary £400 per annum and an allowance of £50 a year towards the expense of keeping a vehicle. Applications to the Clerk, Parish Offices, Edmund-street.

Parish of St. Leonard, Shoreditch.—Second Assistant Medical Officer for the Infirmary, Hoxton-street, N., for six months. Salary at the rate of £70 per annum, with rations, washing, and furnished apartments in the infirmary. *Applications to the Clerk* to the Guardians, Clerk's Office, 213, Kingsland-road, N.E.

Parish of St. Mary, Islington.—Medical Officer for No. 1, Upper Holloway, East District. Salary £100 per annum with certain extra fees, subject to statutory deductions. Applications to the Clerk, Guardians' Offices, St. John's-road, Upper Holloway. Also, Medical Officer to the School in Hornsey-road, Holloway. Salary £100 per annum, subject to statutory deductions. Applications to the Clerk, *Guardians' Offices, St. John's-road, Upper Holloway*, N.

Roxburgh District Asylum, Melrose.—Assistant Medical Officer. Salary £100 per annum, with furnished quarters, board, washing, and attendance.

Royal Eye Hospital or the Royal South London Ophthalmic Hospital, St. George's-circus, Southwark.—Assistant Surgeon. Honorary.

Royal Pimlico Dispensary, 104, Buckingham Palace-road.—Attending Medical Officer.

Royal South Hants Infirmary, Southampton.—Assistant House Surgeon for six months. Gratuity £10, conditionally.

St. Marylebone Infirmary, Ladbroke-grove-road, London, W.—Resident qualified Clinical Assistant to the Medical Superintendent for six months. Salary at the rate of £42 per annum.

Seamen's Hospital Society ("Dreadnought"), Greenwich, S.E.—House Surgeon for Branch Hospital, Royal Victoria and Albert Docks, E. *Salary £50 per annum, with board and residence.*

Sussex County Hospital, Brighton.—Fourth Resident Medical Officer, unmarried. Salary £30 per annum, with board, washing, and residence in the Hospital.

Swansea General and Eye Hospital.—House Physician for one year. Salary £50 per annum, with board, apartments, washing, and attendance.

Taunton and Somerset Hospital, Taunton.—Assistant House Surgeon *for six months. Honorarium of £10 10s. given, with board, washing,* and lodging in the hospital.

Tottenham Hospital.—Resident Medical Officer for one year. Salary £60 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

Boswell.—On March 13th, at Ashbourne, Derbyshire, the wife of Alexander Boswell, M.D., of a son.

Cox.—On March 6th, at 58, High-street, Watford, the wife of Alfred E. Cox, L.R.C.P., M.R.C.S., of a son.

Good.—At Devon House, Prospect, Adelaide, South Australia, on Feb. 6th, 1899, the wife of J. Ernest Good, M.B. (*née* Williams, of Donhead, Wallington, Surrey), of twin daughters.

Hicks.—On March 7th, the wife of Philip Hicks, M.D., The Parade, Leamington Spa, of a daughter.

Norton.—On March 14th, at Iddesleigh-mansions, Westminster, the wife of John Norton, M.D., D.P.H., of a son.

Sanderson.—On March 8th, at Montpellier-road, Brighton, the wife of Robert Sanderson, M.B. Oxon., of a daughter.

Seal.—At Darjeeling, Feb. 22nd, 1899, the wife of Charles E. Baldwin Seal, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

Shadwell.—On March 9th, the wife of St. Clair B. Shadwell, M.D., Lynhurst, Walthamstow, of a son.

MARRIAGE.

Brown—Pope.—On March 9th, at St. Margaret's, Westminster, Henry Reynolds Brown, M.B., C.M., of Maldon, Essex, to Helen Evelyn Pope, of Latchingdon Rectory, Essex.

DEATHS.

Barkley.—On March 8th, at Brighton, suddenly, Charles Horace Barkley, L.R.C.P., L.R.C.S., aged 40 years.

Knight.—On March 12th, at Rotherham, suddenly, Henry John, youngest son of the late Rev. Jas. Knight, M.A., rector of St. Paul's, Sheffield, aged 62 years.

Rudge.—On March 12th, at Fakenham, Edward Drosier Rudge, M.D.

Vise.—On March 4th, 1899, at Abbott's Manor, Holbeach, Lincolnshire, Ambrose Blithe Vise, M.R.C.S., L.S.A., aged 68 years.

Williamson.—On March 13th, at Petherton-road, Highbury New-park, N., aged 84 years, James Williamson, M.D.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Mar. 16th, 1899.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rain fall	Solar Radia in Vacuo	Maximum Temp Shade	Min Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Mar. 10	29·81	WNW	0·01	81	55	38	38	40	Hazy
" 11	30·27	W.	...	62	54	40	41	42	Foggy
" 12	30·45	S.W.	...	81	58	41	45	50	Overcast
" 13	30·57	S.E.	...	67	57	43	41	45	Foggy
" 14	30·64	S.	...	64	53	37	39	40	Foggy
" 15	30·44	E.	...	73	60	39	42	44	Hazy
" 16	30·42	E.	...	48	44	37	37	38	Foggy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (9.30 A.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.), London Throat (2 P.M.).

TUESDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (22nd).—St. Bartholomew's (1.30 P.M.), University College, (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (23rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.)

FRIDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (25th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.)

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (21st).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—Dr. W. P. Herringham: An Account of Experiments upon the Toxicity of Urine in Search of the Cause of Uræmia (illustrated).—Dr. R. Crocker: Tumours from the Forehead.—Dr. F. P. Weber: Diffuse Syphilitic Change in the Liver.—Dr. Russell and Dr. Buzzard: Paramœcium Cysts in the Liver.—Dr. N. Dalton: Two Cases of Destruction of the Recurrent Laryngeal Nerve.—Dr. C. Thomson: Case of Melanotic Sarcoma. Card Specimen: Dr. F. P. Weber: Lipoma of Kidney.

CHELSEA CLINICAL SOCIETY (Parish Hall, Pavilion road, Sloane-square, S.W.).—8.30 P.M. Adjourned Discussion on Dr. Penny's paper on the Radical Cure of Hydrocele. Papers: Dr. Abrahams: Modern Views in Neurology.—Dr. T. V. Dickinson: Remarks on Two Cases of Enteric Fever complicated by Rigors and Exacerbations of High Temperature.—Mr. Nitch Smith: The Use of Baths in Skin Diseases.

WEDNESDAY (22nd).—HUNTERIAN SOCIETY.—8.30 P.M. Mr. A. H. Tubby: Some Cases illustrating the Surgery of the Stomach.—Dr. F. Fox: On Some Unusual Nervous Symptoms.

THURSDAY (23rd).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Specimens will be shown by Mr. Jessett, Dr. Bantock, Dr. Lawrie, Mr. Ryall, Dr. R. T. Smith, and Dr. Oliver. Paper:—Dr. J. Oliver: Adenoma Universale of the Endometrium infiltrating the Myometrium in a Virgin.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Adjourned Discussion on Dr. D. Kerr's and Dr. Hedley's paper on the Therapeutics of Heat. Dr. Ward-Humphreys, Dr. K. Sibley, Dr. Bain (Harrogate), Dr. H. Campbell, Dr. Felkin, Dr. A. Haig, Dr. Smith (Harrogate), Dr. B. Davies (Llandrindod Wells), the President, and others will take part in the discussion.

FRIDAY (24th).—CLINICAL SOCIETY OF LONDON (20, Hanover square, W.).—8.30 P.M. Papers:—Mr. J. Langton (President): A Case of Aneurysm of the Abdominal Aorta successfully treated by the Introduction of Silver Wire into the Sac.—Mr. Rutherford Morison: Patients showing results of Stomach Surgery with descriptions of the Operations Performed.—Dr. Radcliffe Crocker: A Case of Lymphangioma Tuberosum Multiplex.—Mr. W. G. Spencer: Wound of a large superficial Artery in which the Blood was flowing from the Trunk to the Thigh.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (20th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. Stewart: Alternation of Generation, and Recent Additions to the Museum.

TUESDAY (21st).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. Gee: The Nature of Pulmonary Emphysema. (Lumleian Lecture.)

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—4 P.M. Dr. H. Campbell: Disorders attended by Loss of Consciousness.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Dr. R. Russell: Cerebral Tumours (lantern demonstration).

ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Prof. E. Ray Lankester: The Morphology of the Mollusca.

WEDNESDAY (22nd).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. Stewart: Alternation of Generation, and Recent Additions to the Museum.

EVELINA HOSPITAL (Southwark-bridge-road, S.E.).—4.30 P.M. Mr. D. Pedley: Clinical Demonstration on Dental Cases from the Wards. (Post Graduate Course.)

THURSDAY (23rd).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. Gee: *The Nature of Asthma. (Lumleian Lecture.)*

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—4.30 P.M. Dr. M. Dockrell: Cases of Rodent Ulcer and other Malignant Diseases of the Skin.

LONDON TEMPERANCE HOSPITAL.—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration to Senior Students.

FRIDAY (24th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. Stewart: Alternation of Generation, and Recent Additions to the Museum.

ROYAL INSTITUTION OF GREAT BRITAIN.—9 P.M. Right Hon. Lord Rayleigh: Transparency and Opacity.

SATURDAY (25th).—ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Right Hon. Lord Rayleigh: The Mechanical Properties of Bodies.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1898, which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in THE LANCET of Jan. 7th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1898 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 6*d.*

To be obtained on application to the Manager, accompanied by remittance.

MEDICAL INFORMATION IN LAY PAPERS.

THE following answer to a correspondent appeared in the *Gentlewoman* of March 11th, 1899, and has been forwarded to us by a correspondent who asks us what we think of it:—

> "As Paying Guest in a Lady's House in Hereford for Medical Treatment.—You will certainly recover in a better climate. I know from experience how trying the Indian heat is, for I have been in exactly the same predicament as yourself. You cannot do better than pick up your strength in the warm, bracing climate of the Riviera on your way home. But I must warn you that the French Riviera in spring is not cheap; and in the very moderate priced houses you will, of course, not find a large amount of comfort. I recommend you to try Hyères, where, at the Hôtel de France, you will be exceedingly comfortable for 7 francs a day. Now for your questions. 1. In Hereford you cannot do better than put yourself under Dr. Turner who is the principal medical man in the town. His address is St. Owen's-street. All doctors of modern ideas are now favourable to the use of chloroform in cases like yours, provided the patient (and you will be after a little Europe) is physically fit. 2. I cannot tell you of any lady taking paying guests for treatment in Hereford, but I should suggest your writing to Dr. Turner to inquire. It is against my rule to recommend lodgings, but as you are so far away and your case is one that will not wait, you can rely upon being comfortable at the following address: Miss Elliott, 21, Broad-street, Hereford. (K. F., Mhow.)"

We think as follows:—

(1) That the writer assumes a grave responsibility in promising certain recovery to a patient upon the strength of the patient's own description of her symptoms; (2) that this fact alone goes far to prove that the person giving medical advice *is not* a medical practitioner; (3) that Mr. Thomas Turner, F.R.C.S. Eng. L.S.A., will resent the publicity that has been thrust upon him in a lay paper all the more that he has been exalted at the expense of his 19 other medical colleagues in that city and that he will not know himself in the character of a man who recommends lodgings; and (4) that the writer of the reply should for the future make the same rule about medical men as for lodgings and abstain from recommending them.

The whole question of medical advice in lay papers is one which requires the serious consideration of medical men and of the public. When we in THE LANCET raise up our voice against the system of treating disease by correspondence we lay ourselves open to a double suspicion of being narrow and jealous in our views. Firstly, it is alleged that in an eagerness to speak on behalf of the medical profession we lose sight of the possibility that it might be for the good of the public to be able to obtain this sort of medical advice. Secondly, it is suggested that we desire to keep for the medical press a monopoly in medical information. To deal with the latter and the totally unimportant point first we have only to say that we do not cater for the public, that we do not give medical advice, and that we do not recommend medical practitioners. The larger matter is worth a little more consideration and we would impress upon our readers the desirability of pointing out what follows to their patients whenever opportunity arises. Why should the public pay a medical man to diagnose and treat its diseases when the obliging editor of a lay paper will give his assistance for nothing? This is the practical way in which the public may speak. The answer is that the assistance is worth nothing. The persons who are responsible for the replies to the medical queries in lay papers are generally not medical men and never medical men of any standing in their profession. This is implied by the fact that no serious medical man would attempt to diagnose and treat patients upon their descriptions of their symptoms and proved by the nature of the replies wherein serious mistakes often abound. In our opinion, medical men should use their undoubted influence with the public to urge the unseemly and dangerous nature of the so-called "medical" columns in the lay press.

The example we have quoted at the head of this note is a favourable one in that it contains no silly recommendation to abstain from all physic, no poisonous prescription, and no diagnostic guesses. We may be certain what Mr. Turner's opinion of the reply will be; and we hope that he will let the editor of the *Gentlewoman* share it with him, for he has our sympathies in the disagreable position in which he has been placed through no fault whatever of his own. For we know that he has not been privy to the advertisement of his merits.

DR. LAPPONI ON THE POPE'S ILLNESS.

IN a letter addressed *ad populum* rather than *ad clerum* Dr. Lapponi explains to the Roman Catholic world why the hæmatic cyst recently removed from the left lumbar region of his august patient was not operated upon at an earlier date. He says: "A cyst in irritation ought to be removed without delay, even in the case of an old man. A cyst not in irritation may be operated upon in a young man; not always in an old man. Violent pain may be the cause of death by syncope. In a young man chloroform may be employed; not always in an old man. In the Pope's case the operation was not attempted some years back because the difference of age remaining constant the other conditions of health offered no advantage over the present state. He who is old at 90 years is not young at 85. The operation was not performed before because the pain felt and the risk incurred under the knife in a nonagenarian subject would have had equally, but with anticipation, to be overcome in one five years younger. ...... Such a cyst in a state of tranquility is an inconvenience, not a disease. If a disease ought always to be combated an inconvenience ought occasionally to be tolerated for fear of making matters worse. ...... These considerations, as they influenced Professor Madruzza 25 years ago and Professor Ceccarelli 10 years ago and more recently other able surgeons, so they influenced me in withholding active intervention. So long as it was possible I preferred a 'masterly inactivity,' practising precautions of a subsidiary kind. I wished to do to another what in similar circumstances I should have wished done to myself, employing a continuous and rigorous vigilance, and decided not to incur the risks inseparable from operation, unless circumstances left no other course possible. Certainly the surgical treatment of a voluminous hæmatic cyst not in inflammation is more propitious than similar interference in a parallel cyst when inflammation is present. ...... Be all this as it may, the success of the operation seems amply to justify the prudent, vigilant, expectant course, which, up to a few days ago was imposed on me, and which, to every experienced and loyal surgeon, cannot but appear, on the grounds of humanity as well as of science, to have been the most correct one."

MEDICAL AID SOCIETIES.

To the Editors of THE LANCET.

SIRS,—Although it is difficult to ascertain the number of trading companies which exploit the profession with reference to the provision of medical aid, yet I am assured from several correspondents that a very large number of men do lend themselves and their names towards increasing the business of these purely money-earning societies. We as a profession can hardly interfere with the work of insurance companies, although we may have our doubts as to the wisdom of promoting the insurance of infants' and children's lives; but when these so-called insurance companies employ men to canvass or tout for clients for medical purposes, then I think it is full time that some strong protest should be made. That the medical officers are perfectly aware of what the agents of these companies do can hardly be denied. It is much to be deplored that medical men have copied the objectionable tactics of these associations and have themselves employed canvassers or "touts" for private family clubs. Surely, Sirs, the time has come when the profession as a body should speak out, and speak out boldly, on the undignified and lowering tactics pursued.

I am, Sirs, yours faithfully,

March 6th, 1899. A GENERAL PRACTITIONER.

EXPERIMENTAL LIGATURE OF THE MESENTERIC VESSELS.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if either you or one of your correspondents could give me some information on the following matter. I am under the impression that during the last year or so some experimental work has been done in animals on ligaturing certain branches of the mesenteric artery and vein to see the effect that the vascular occlusion may have on the part of the bowel supplied by that vessel with regard to the production of intestinal infarction or gangrene, the ligatures being placed at varying distances from the bowel in different experiments. I am unable to refer to this work anywhere, and if it has actually been done, I should be much obliged if one o your readers could give me the reference.

I am, Sirs, your faithfully,

March 13th, 1899. INQUIRO.

INTRACTABLE ECZEMA.

To the Editors of THE LANCET.

SIRS,—I should be very much obliged if any of your readers could give me suggestions for the treatment of a case of intractable eczema, probably gouty in origin. There is a small patch on the corona glandis, dry and scaly at times, of two years' duration, which has resisted all remedies. The patient is an adult who drinks moderately and takes plenty of exercise; there is no history of syphilis.

I am, Sirs, yours faithfully,

March 13th, 1899. W. K.

"THE THERAPEUTICS OF COMFREY."

To the Editors of THE LANCET.

SIRS,—Permit us to offer a word in reply to the inquiries of "W. S." in THE LANCET of March 11th. Comfrey may be used externally as a poultice in two ways—viz., (1) the whole plant, (2) the root. (1) the whole plant may be boiled until soft, then beaten up and applied hot; (2) the root is used far oftener than the whole plant, and the apparent good experienced by this form of treatment of tumours has been nearly always ascribed to the root. It is boiled in water till soft; then beaten into a pulpy mucilage, and spread upon leather, or linen cloth. If too liquid it may be brought to a proper consistence by the addition of a little of the dry powdered root. About two years ago the then President of the Irish College of Surgeons reported the gradual disappearance of a growth (malignant, sarcomatous, twice recurrent, and of a bad type) after steadily applying poultices of comfrey root to the tumour. "I know nothing," said

Professor Sir William Thomson, "of the effects of comfrey root, but the fact that this growth has simply disappeared is one of the greatest surprises and puzzles I have met with." Sir William Thomson resides in Dublin and would no doubt be pleased to answer any questions respecting it which "W. S." might prefer. The medicinal virtues are believed to lie in the mucilage of comfrey, which contains tannin, asparagin, sugar and starch granules, &c.

Chelidonium majus.—"W. S." also asks about the internal treatment of similar cases by chelidonium majus. Denisenko has re-introduced it as a remedy for cancer. In internal cancer he administers an extract of the drug; in external cancer he not only does that but also resorts to an injection locally in addition—an injection composed of the extract two parts, water one part, and glycerine one part, of which he injects one cubic centimetre as a dose.

We are, Sirs, yours faithfully,

March 14th, 1899. PARKE, DAVIS AND CO.

CAMPHOR IN THE TREATMENT OF PHTHISIS.

WE have received from Dr. Bruno Alexander of Nervi and Reichenhall an 11 page pamphlet reprinted from No. 48 of the *Berliner Klinische Wochenschrift*, 1898, strongly recommending the subcutaneous injection of camphorated oil in pulmonary phthisis. If the patients' temperatures are raised, he gives a subcutaneous injection of 0·1 or 0·2 cubic centimetre (one and three-quarter minims or three and a half minims) of camphorated oil once a day for a long time—for from four to six weeks without interruption; he then allows an interval of from one to four weeks, after which the injections are resumed. The oil used is the oleum camphoratum of the German Pharmacopœia, containing 10 per cent. of camphor, so that the above quantities correspond to subcutaneous injections of one-sixth of a grain or one third of a grain of solid camphor. If the patients' temperatures are not raised he gives larger doses for a shorter time—namely, from 0·3 to 0·5 cubic centimetre of oil (i.e., from half a grain to three-quarters of a grain of camphor) for from eight to 14 days, followed by an interval of eight days, after which the injections commence once more. Another method of treating a pyrexial patient is by daily injections of one cubic centimetre of oil (i.e., one and a half grains of camphor) for four days, followed by an interval of eight days.

WANTED A SUGGESTION FOR TREATMENT.

To the Editors of THE LANCET.

SIRS,—I should be exceedingly obliged if some of your readers would help me with the prognosis and treatment of the following case. In November of last year a friend of mine noticed her right hand to swell one day after it was kept in a strained dependent position for some little time. It became stiff and painful. In the shoulder pains were also felt at intervals. It was diagnosed as a case of subacute rheumatism and the routine treatment for same was used, but after a month the pain and stiffness were there as at the commencement. Both were aggravated by any effort at piano playing and then she felt as if the sinews were too short; indeed, for some time after she could not straighten the fingers. It should have been mentioned that previously to the onset of the symptoms mentioned the lady was [illegible] incessant pianoforte player. As she did not derive any [illegible]om the rheumatic treatment she consulted another medical [illegible]e at once said it was a case of "pianist's cramp" and advised massage, electricity, and general tonics. The two former have been used almost daily for six weeks and she thought she was getting quite well again, but yet she feels the fingers quite stiff and wooden if a few notes only are played. Can anyone suggest any other treatment than that already mentioned together with total abstinence from the use of the pianoforte and how long does such a disease take to get well?

I am, Sirs, yours faithfully,

March 14th, 1899. MEDICUS.

THE SCOPE OF THE PENAL WORK OF THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—The General Medical Council has drafted a short Bill for the consideration of the Privy Council dealing with registered medical practitioners who "after due inquiry" have been judged by the Council "guilty of infamous conduct in a professional respect." What we, as members of the profession, complain of is that the Council troubles itself very little about medical men who are guilty of infamous conduct. Judging from the cases that from time to time are dealt with by the Council "covering" unqualified assistants and "advertising" are the chief sins committed and condemned. What has the Council done to medical men who sell practices and partnerships under false pretences? What punishment has been meted out to registered practitioners who have evaded the terms of a deed or wilfully disregarded them to suit their own purposes? There are dozens of cases annually of this kind of "infamous conduct in a professional respect"—i.e., in dealings between medical men themselves—which the Medical Council should carefully look into and severely punish. Occupying as it does the position of a medical court from which there is no appeal, it seems to fail in its duties towards the profession as a court of appeal. I have been informed by one who is well up in the details that the Council will not bring a practitioner to book for breaking or evading the terms of a deed of partnership or of dissolution of partnership, and that even if the plaintiff obtains damages in a court of law the Council will not take any notice of the matter. Surely, if medical men are proved guilty of behaving in an infamous manner towards one another (e.g., by evading the terms of a deed, by "over reaching and under-selling") the Council is the proper authority to take up such cases and to remove from the Register the name of any such practitioners. When this is done there will be less "farming" and selling of practices under false pretences, and less "poaching" in a district after selling the rights of practising in it. If the present members (or some of them) consider this to be outside the scope of the Council it is time for them to retire and for others with more determined and higher views to take their places.

I am, Sirs, yours faithfully,

"MAKE THE PUNISHMENT FIT THE CRIME."

TREATMENT OF HICCOUGH.

IN the *Maryland Medical Journal* of Feb. 25th, Dr. Louis Kolipinski of Washington records a case in which persistent hiccough was immediately checked by depressing the tongue. The patient, a man, 69 years of age, began to hiccough on Dec. 14th, 1893. Next day he was not able to take his meals or to work at his trade. He slept but little, the hiccough being so violent that his bed shook, and he passed the night mostly sitting up. During the next three days his state continued the same; on Dec. 17th and 18th his throat felt swollen and full and he was in dread of death by suffocation. On Dec. 18th, while Dr. Kolipinski, in order to examine the patient's throat, was pressing his tongue downwards and backwards with the handle of a large spoon using continuous steady force, the hiccough suddenly ceased. An hour afterwards it returned, but the patient placing himself in front of a mirror stopped it by using the spoon in a similar way. Two days later it reappeared but was promptly arrested by the patient as before.

THE MEDICAL WRITER IN THE LAY PRESS.

To the Editors of THE LANCET.

SIRS,—I have been asked by a firm of publishers to write a small book for domestic use on *Diseases and Management of Children* and it is proposed by them that a column be published each week in several of the provincial lay journals. Can you advise me if this course would be thought wrong or in any way unprofessional? I told them I could not consent to anything being done in that way without your advice.

I am, Sirs, yours faithfully,

March 10th, 1899. A. J. G.

*** The publication of the work as a serial in provincial lay journals would be most inadvisable. The procedure would certainly give great offence to the medical profession and such feeling would not be unreasonable.—ED. L.

◆

C. K.—Horse ambulances are in existence. We believe they answered their purpose exceedingly well and we have more than once expressed our surprise that there are not more of them in use. Motor traffic is still infantine.

M.B. wishes to ascertain if puerperal eclampsia is as frequent amongst the purely vegetarian races as in the British Isles and appeals to our readers for assistance.

E. H. B.—It is unfortunately not possible to recommend any place, for locality is a mere matter of experiment. Patients are generally free at sea.

Mrs. C. K. Hunter desires us to publish her full address. It is 139, Warwick street, London, S.W.

Anæsthetist has not enclosed his name and address.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received: *Eastern Daily Press, Sun, Manchester Courier, Liverpool Mercury, Hereford Mercury, Western Daily Press, Leicester Daily Post, Birmingham Argus, Times of India, Pioneer Mail, Scotsman, Builder, Citizen, Architect, Yorkshire Post, Brighton Gazette, North British Daily Mail, Leeds Mercury, Irish Figaro, First Aid, Liverpool Daily Post, Flint County Herald, Bristol Mercury, Sheffield Daily Telegraph, Cheltenham Examiner, Sanitary Record, Folkestone Express, East Anglian Times, New Ross Reporter, Daily Chronicle, Science Siftings, Watford Leader, Truth, Chard News, Eastbourne Gazette, Coventry Daily Telegraph, Kent Herald, Chester Courant, Taunton Echo, Essex Chronicle, Dundee Advertiser, The Stockkeeper and Fanciers' Chronicle, Crystal Palace Times, Doncaster Chronicle, Mining Journal, Hertfordshire Mercury, Reading Mercury, Local Government Chronicle, City Press, Pontefract Telegraph, Newry Standard, Dentist, Surrey Advertiser, Burnley Gazette, Eastbourne Chronicle, Local Government Journal, Harrogate Advertiser, Chiswick Times, Burton Evening Gazette, Yorkshire Weekly Post, Durham Chronicle, Slough Observer, Citizen (Gloucester), Derbyshire Times, South Wales Echo, Worcester Daily Times, Liverpool Courier, Islington Gazette, Madras Standard, &c.*

Communications, Letters, &c., have been received from—

A.—Dr. F. Arnold, Bulawayo; Messrs. Allen and Hanburys, Lond.; American Typewriter Co., Lond.; Dr. E. Armitage, Wailuku, Hawaiian Islands; Mr. Abbot-Anderson, Lond.

B.—Mr. W. G. Burcombe, Lincoln; Dr. F. O. Bell, Wareham; Birmingham, &c., Drainage Board, Secretary of; Bayer Co., Lond.; *Birmingham Daily Gazette*; Dr. William Bain, Lond.; Dr. J. P. Bush, Bristol; Messrs. Baillière, Tindall, and Cox, Lond.; Mr. C. Birchall, Liverpool; Birmingham and Midland Free Hospital, Secretary of; Dr. J. B. Berry, Keighley.

C.—Mr. T. S. Cotterell, Bath; Messrs. J. and A. Churchill, Lond.; Mr. J. Cameron, Leek; Messrs. Crossley, Moir, and Co., Lond.; Mr. J. B. Cameron, Lond.; Mr. W. H. Crosse, Lond.; Mr. E. W. Cooper, Lond.; Mr. W. B. Croskery, Eckington; Messrs. Cassell and Co., Lond.; Mr. W. Watson Cheyne, Lond.; Dr. Carter, Brighouse; Mr. A. Cooke, Lond.; Mr. F. W. Clarke, Chorlton-cum-Hardy; C. H. M.

D.—Mr. A. G. Dalzell, Halifax; Derby County Asylum, Secretary of; Mr. M. Daly, Chew Magna; Mr. F. Davidson, Lond.; Messrs. Davies and Rhys, Aberdare; Messrs. Davy, Hill, and Son, Lond.; Mr. R. J. Dobie, Lond.; Messrs. G. L. Daube and Co., Frankfurt-on-Main.

E.—Messrs. Evans, Gadd, and Co., Exeter; E. W. R.

F.—Dr. Mearns Fraser, Portsmouth; F.R.C.S.; F. P.; Messrs. Ferris and Co., Bristol; Dr. G. K. Finlay, Manchester.

G.—Mons. E. Gambier, Paris; Glasgow Eye Infirmary, Secretary of; Messrs. Gordon, Alexander, and Co., Lond.; Messrs. Greenslade Bros., Torquay; Messrs. J. Gabor and Co., Brighton.

H.—Mr. O. E. Horn, Bournemouth; Dr. A. Butler *Harris*, Loughton; Dr. A. Hollis, Freshwater; Hardwicke, Earl of, Lond.; Mr. A. Hancock, Lond.; Mr. Hollies, Wellington, Salop; Mr. J. Heywood, Manchester; Mr. A. Helbig, Lond.

I.—*Indian Medical Record*, Calcutta, Manager of.

J.—Jenner Society, Gloucester, Hon. Secretary of.

K.—Kronthal Co., Lond.

L.—Mr. H. C. Linden, Compton Martin; Mr. P. G. Lee, Cork; Mr. H. K. Lewis, Lond.; Mr. J. Law, Aldershot; Liverpool Infirmary for Children, Hon. Secretary of; Messrs. Lever Bros., Port Sunlight; Dr. J. A. Lycett, Wolverhampton; Dr. D. Lawson, Banwell; Mr. H. Larewy, Lond.

M.—Mr. J. Murray, Lond.; Maltine Manufacturing Co., Lond.; Dr. W. Mackie, Elgin; Mr. M. J. Mody, Cambridge; Manchester Royal Infirmary, Secretary of; Mr. A. R. Milton, Hatton, Ceylon; Mr. W. Morton, Tamworth; *Mr. Malcolm-Smith*, Lond.

N.—*North Eastern Daily Gazette*, Middlesbrough, Manager of; National Provident Institution, Lond.

O.—Dr. O'Neill, Lincoln; Dr. I. Owen, Lond.

P.—Dr. J. F. Porter, Helmsley; Mr. Y. J. Pentland, Edinburgh; Messrs. Potter and Clarke, Lond.; Parish of St. Mary, Islington, Clerk of; P. J. A. S.; Mr. G. H. Parry, Ventnor; Mr. J. E. Platt, Manchester; Messrs. C. Pool and Co., Lond.; Dr. J. S. Purdy, Morpeth.

R.—Mr. H. A. Roechling, Leicester; Mr. E. J. Reid, Lond.; Dr. C. Reinhardt, Lond.; Roxburgh District Asylum, Melrose, House Steward of; R. C.; Dr. A. Rose, Horwich, Lancs.; Mr. Felix Ryland, Birmingham; Mr. E. J. Reid, Lond.

S.—Mr. G. A. Stephens, Swansea; Dr. Gordon Sharp, Leeds; Dr. H. Savory, Bedford; Dr. Lindley Scott, Lond.; Dr. Silk, Lond.; Sir James Sawyer, Birmingham; Mr. V. F. Sutcliffe, Chesterfield; Messrs. W. H. Smith and Son, Manchester; Sussex County Hospital, Brighton, Secretary of; Smedley's Hydro, Matlock, Medical Superintendent of; Swansea Hospital, Secretary of; Mr. H. T. Sinclair, Wiesbaden; Messrs. Street and Co., Lond.

T.—Mr. A. H. Tubby, Lond.; Mr. E. Townson, Long Sutton; T. F.; Mr. G. R. Turner, Lond.; Messrs. C. Tayler and Co., Lond.; Taunton and Somerset Hospital, Taunton, Hon. Secretary of.

U.—University College, Dundee, Dean of.

V.—Mr. J. W. Vickers, Lond.; Dr. W. M. Vores, Great Yarmouth; Messrs. Valentine and Schwarz, Leipzig, Plagwitz; Mr. A. B. Vise, Holbeach; Mr. J. Vincent, Pau.

W.—Mr. R. T. Williamson, Manchester; Mr. R. Walker, Aberdeen; Dr. H. S. Walker, Leeds; Dr. Francis Warner, Lond.; Mr. A. Wirth, Lond.; Mr. A. T. Wooldridge, Camberley; Messrs. Wilcox and Co., Lond.; W. E. T.; Professor Whitla, Belfast.

Y.—Dr. R. T. Young, Lond.

Z.—Zeta.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. F. C. Angear, Chatham; Mr. F. C. Allen, Ashton-under-Lyne; Mr. R. R. Anderson, Fern Hill; Mr. J. Aston, Lond.; A. W.; Adaminaby Post Office, New South Wales, Postmaster of; Mr. H. Angus, Liverpool; Mr. G. C. Adams, Manchester; Mr. F. C. Abbott, Lond.; A. E. P.; A. A. R.

B.—General Bond, Londonderry; Mr. W. Bubb, Powick; Mr. R. S. Brown, South Shields; Mr. C. L. Bedford, Birmingham; Messrs. Battle and Co., Paris; Mr. C. W. S. Barrett, Hinckley; Dr. J. H. Brown, Sheffield; Dr. E. H. Booth, Eastbourne; Borough of Royal Leamington Spa, Accountant of; Messrs. Blackwell and Gross, Lond.; Mr. R. Bebb, Ton Pentre.

C.—Dr. W. S. Carroll, Hafod; Mr. A. E. Cox, Watford; Dr. Clark, Ongar; Mr. J. N. Carvell, Catford; C. H. L.; C. and A.; C. E. G. B.; Mr. C. P. Crouch, Weston-super-Mare.

D.—Mr. N. Davies, Cowbridge; Mr. G. E. Douglas, Lond.; Dispenser, Cheltenham; Messrs. A. D. St. Dalmas and Co., Leicester.

E.—Mr. T. F. Elmes, Acrefair; E. P.

F.—Mr. J. J. Fraser, Clitheroe; Flower House, Catford, Medical Superintendent of; F. J. L.; Dr. F.; Fromms Extract Co., Lond.; F. S.

G.—Dr. W. G. Galee[illegible]cht, wold; Messrs. Gil[illegible] E.; and Co., Clifton; [illegible]riffith, G. T. B.; Dr. E[illegible] Abercarn. [illegible]nd.; Mr.

H.—Dr. M. Hem[illegible]am; Sir H. E. Hayne[illegible] Alresford; F. Seymour H[illegible]ouse; Mr. Dr. M. Heiman, dvertising Hart, Lond.; Hart's . C. J. Offices, Lond.; Messrs. [illegible] Hewlett and Son, Lond.; H. L.; Messrs. Hastings Bros., Lond.; H. E. H.; H. P. C.

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The Lumleian Lectures

ON

BRONCHITIS, PULMONARY EMPHYSEMA, AND ASTHMA.

Delivered before the Royal College of Physicians of London on March 16th, 21st, and 23rd, 1899.

BY SAMUEL GEE, M.D. LOND.,
FELLOW OF THE COLLEGE AND PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL.

LECTURE II.[1]

Delivered on March 21st, 1899.

ON THE NATURE OF PULMONARY EMPHYSEMA.

MR. PRESIDENT AND GENTLEMEN,—In 1764 Dr. William Watson (who afterwards became a Fellow of our College and a knight) read before the Royal Society "An account of what appeared on opening the body of an asthmatic person." He described what he called an "emphysematous state of the lungs," a condition which he deemed to be due to an "extravasation" of air into the lungs from the "bronchia and vesicular substance," and what was no doubt vesicular emphysema of the lungs in the sense which we give to that phrase. Pulmonary emphysema has been known in one of its results—namely, the barrel-shaped chest—from the time of the ancient Greeks. The lesion of the lungs themselves was first noted by Valsalva and Ruysch in the earlier part of the last century. However, Laennec was not far from the truth when in the first edition of his great work published in 1819 he said that "emphysema of the lungs, such as he had described it, seemed to him to be a disease hitherto unknown."

It is universally agreed that the note of pulmonary emphysema is to be found in enlarged capacity of the acini and lobules of the lungs beyond what can be produced in health by the deepest inspiration. This change in the structure of the lung, the anatomical characteristic of emphysema, is pretty thoroughly known; but when we come to inquire into the process which leads to emphysema the case is very different. For we cannot know the process in the same way as we know the result; we cannot watch the lungs becoming emphysematous, we can only argue about the process. Deprived of the intuition of sense, the light of nature, we must follow the light of reason and beware lest it prove to be *ignis fatuus*. And unfortunately we can get no help from experimental pathology; we cannot set up progressive emphysema in the lower animals and mark its stages in the same manner as we can set up inflammation. Hence the many theories of emphysema and long discussions which, however, do not dishearten me from attempting the difficult topic once more; my only fear is lest I should weary you.

ACUTE EMPHYSEMA.

The emphysematous process, like all nature's processes, may be assumed to be complex, and we shall do well to begin by endeavouring to resolve it into its simplest elements. Nature itself helps us much by offering to our consideration a form of emphysema which certainly is simpler than ordinary emphysema and which seems to consist in a mere over-distension of the lung. I allude to the acute emphysema first adequately described by Fauvel in his essay upon capillary bronchitis. You know the condition—both lungs distended with air, *as if insufflated* by the fullest possible inspiration, but some parts of the lung distended more than this, emphysematous, in short, and especially so in the upper lobes and their anterior portions. You know that this acute emphysema is especially met with in young children who have died *from suffocating* capillary bronchitis or *from* diphtheritic croup. Many of these children will have enjoyed the most perfect health until they are attacked by the bronchitis or croup, so that there is no question in them of any preceding disease of the lungs. The suffocating bronchitis will often prove fatal within a week *from* its beginning; croup will kill in a still shorter time; and there is a disease, very much less common—namely, hæmorrhage into the air passages—which may suffocate in a few minutes, acute emphysema being found post mortem in all cases.

Let us turn our attention to croup in the first place, inasmuch as it is often entirely free from one condition which might complicate the question—namely, collapse of the lung. For although fatal croup is usually associated with abundant puriform secretion into the small air tubes of the lungs, yet in spite of this form of bronchitis there is sometimes no collapse at all even when the lungs have become highly emphysematous, *so* that collapse, when *present*, can be no more than somewhat contributory to the emphysema. In other words, the emphysema is but slightly, if at all, compensatory to any collapse. John Cheyne in his book on the pathology of the laryngeal and bronchial mucous membrane published in 1809 *frequently* alludes to the emphysema and puriform catarrh of croup. For example, he says: "The lungs were so filled that they did not recede in the least when the thorax was opened; every surface which was cut poured out this puriform fluid from several points."

Setting collapse aside, the conceivable causes of acute emphysema are two—namely, dyspnœa and cough; that is to say, the movements of dyspnœa and of cough, not overlooking the fact that they usually concur. Here also the question is simpler in the case of croup. In capillary *bronchitis both dyspnœa and cough are great and therefore* the question of the associated emphysema is complicated. But in croup the dyspnœa is extreme, while the cough is insignificant or even absent, so that it may be left out of consideration, and all this in cases affording a high degree *of insufflation and emphysema of the lungs.*

Our analysis thus leads us to infer that dyspnœa is the cause of acute emphysema. Now, the movements of dyspnœa are forced movements, inspiratory or expiratory, or both. But before proceeding further with this part of our subject let us cast a short glance upon the movements of breathing in general.

From the earliest times the diaphragm has been regarded as the essential agent of respiration. We may say of respiration, and not of inspiration only, because expiration is little more than a result of inspiration. Galen was the first to show that most of the intercostal muscles were ordinary muscles of inspiration. Guided by the researches of Duchenne we may disregard the exceptions which Galen made and we may say that all the intercostals act simultaneously and *are employed in ordinary quiet inspiration.* They not only raise the ribs but keep the intercostal spaces tight during the descent of the diaphragm. When the intercostal muscles are paralysed but the diaphragm is not, the upper two-thirds of the chest are motionless.

The chest may be roughly compared to a bow, inspiration to a bow when pulled upon by an archer, and expiration is little more than the elastic recoil of the bow when the archer lets go the string. But the inspiratory muscles do not altogether let go when expiration begins; they continue to act *as moderators of the expiratory movements and hence* expiration is more gradual than it would be were it a mere elastic recoil. In short, the muscular contractions of expiration are persisting contractions of inspiratory muscles unless the expiration be forced and then extraordinary muscles of *expiration come into play.*

Physiologists seem to be agreed that although the outward pressure of the air at the mouth during expiration is greater than the pressure inwards during inspiration, yet the forces concerned in inspiration are decidedly much greater than those of expiration. These propositions at first sight seem to be discrepant, but we are not called upon here to explain the apparent discrepancy—we will only remark that they indicate a provision in the human economy for repressing the greater powers of inspiration. Let us especially note that the elastic retraction of healthy lung is not satisfied by the deepest expiration and that the lungs are provided with a considerable reserve of elasticity, so necessary is it to maintain sufficient deflation of the lungs, or in other words to keep them sufficiently empty of air. For if there be insufficient efflation there must be insufficient inflation.

In the forced breathing of healthy persons there is the same disproportion between the powers of the antagonist movements. But physiological experiments relate to a few forced respirations studied in a healthy subject. The forced breathing of disease introduces a new set of conditions and requires that we proceed to an analysis. The
muscles of inspiration are
the scaleni, and the

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[1] Lecture I. was published in THE LANCET of March 18th, 1899.

No. 3943.

All physicians admit a close connexion of some kind between bronchitis and emphysema—a connexion in many cases so obvious as to be past all doubt, but in other cases not so. Laennec went so far as to say that emphysema is almost always the result of intense and extensive *catarrhe sec.* All writers on emphysema mention this opinion of Laennec; few, if any, adopt it or even discuss it, but no opinion of that remarkable man can be passed over lightly. What does he mean by dry catarrh? He himself admits that the phrase is a contradiction in terms; to find appropriate names for diseases was not a strong point of his; witness his perversion of the meaning of the word "apoplexy" in his phrase, "pulmonary apoplexy." But medical writings are full of this fault, and Laennec is no worse than many other physicians. A better name than dry catarrh would be dry bronchitis *(bronchitis sicca)*, for the word "siccus" as applied to pulmonary diseases denotes scantiness or absence of expectoration. Stoll speaks of "pleuritis sicca" and "pleuritis humida"; Hippocrates of "dry orthopnœa," and the phrases "dry cough" and "dry asthma" are colloquial.

In the lungs of persons who died in an early stage of dry catarrh Laennec used to find the mucous membrane of the bronchia swollen and dull-red or violet in colour—conditions most notable in the smaller bronchia, which might be almost completely obstructed by the swelling. The extent of the swelling was not more than a few lines, the mucous membrane in the same tube above and below being natural. This local bronchitis was extensive in proportion to the duration of the disease. When the dry catarrh was universal or even very extensive it always ended by determining emphysema. He often found the partially obstructed tubes to be plugged by pellets of viscid mucus of the size of hemp or millet seeds, and it is these mucous pellets which make up the pearly sputa which such patients, even when they think there is little or nothing the matter with them, expectorate in small quantity every morning.

During life the dry catarrh often continues to a slight degree for many years, Laennec goes on to say, or it may be altogether latent, the patient noticing no more than that his breath is shorter than that of other men, especially upon exertion. This dyspnœa increases gradually and the patient becomes subject to attacks bad enough to deserve the name of asthma. The tendency to dyspnœa is accompanied by cough which at the beginning of the disease is, like the dyspnœa, slight. The cough is attended by expectoration of what Laennec calls pearly sputa, which closely resemble the hailstone sputa (*chalazia*) described by Aretæus and Galen. Such is a brief summary of Laennec's characterisation of his *catarrhe sec.*

Now, if we admit that a man in a state of perfect health ought not to cough or expectorate, and also that expectoration implies catarrh, it follows that at no period of the progress of emphysema is that condition unassociated with catarrh. Again, inasmuch as emphysematous patients always become in the advanced stage of their disease manifestly bronchitic or catarrhal, it is reasonable to believe that in the early stage also their cough and expectoration indicate slight bronchitis or catarrh. Lastly, the symptoms of progressive emphysema (as I have already attempted to depict them) and those of Laennec's dry catarrh seem to relate to the same disease looked at from two different points of view.

We have now reached a position which enables us to resume our discussion of the nature of emphysema. Starting from the note of progressive emphysema—namely, the atrophy of lung tissue—the problem may be resolved into a choice between these alternatives. Is there a primary degeneration of lung tissue, rendering it apt to be permanently distended and also to be destroyed particle by particle? Or is the atrophy due to distension of the lung, and if so, what causes the distension? In briefer language, is the atrophy primary or secondary? The easiest answer is that which assumes the atrophy to be secondary to distension. Laennec asserts that "pulmonary emphysema is almost always developed in consequence of intense and extensive dry catarrh," and we have seen that clinical observation supports this opinion. But in speaking of the priority of catarrh we must understand it only as a priority of order and conception and not as a priority of time. Another argument in favour of Laennec's opinion is this, that inasmuch as acute emphysema is undoubtedly dependent upon bronchial affections it is probable by analogical reasoning that chronic emphysema likewise is so. I will not repeat Laennec's explanation, which you all know, concerning the manner in which he supposes dry catarrh to lead to emphysema, and I will only remark that his hypothesis is not so easily set aside as some people think by pointing out that the air-current at the mouth of a healthy man is more powerful during expiration than during inspiration, for the conditions in pulmonary catarrh are obviously not the same.

Let us fix our attention upon the fact of the barrel-shaped chest in cases of emphysema. It is a chest more capacious than a healthy chest could be rendered by the deepest and most powerful inspiration. The distended chest is a sign of distended lungs, and this fact puts before us a disjunctive hypothesis: either the distended chest distends the lungs, or the distended lungs distend the chest. Now the latter hypothesis affords no explanation at all, because it leaves the distension of the lungs unexplained; and the cause of this pulmonary distension or emphysema is the very thing we are asking for. Wherefore let us consider the former hypothesis—namely, that the distension of the lungs is consequent upon increased capacity of the thorax. In normal inspiration which fact precedes the other—dilatation of the lungs or dilatation of the chest? And by what powers can the chest be over-distended? Obviously by the inspiratory muscles, ordinary and extraordinary, and by no others. And if the chest be over-distended, what must ensue? Over-distension of the lungs, because the potential vacuum caused by extraordinarily deep inspiration is certainly not filled up in any other way.

In health the inspiratory distension of the lungs is exactly countervailed by the expiratory contraction. Why, then, in the barrel-shaped chest is this no longer the case? Obviously because the expiratory powers have been unequal to the task of restoring the chest to its natural shape and size. That is to say, the expiratory powers are no longer equal to the inspiratory. And is not this a sufficient reply to those who, relying upon spirometrical observations made upon healthy people, reject Laennec's explanation of the mechanism of emphysema.

In emphysema, then, there is failure of expiratory power; nay, more, this is the essence of emphysema. Expiration being no longer able to rid the lungs of their exhausted air, ordinary inspiration cannot supply the necessary quantity of fresh air. And there is only one means by which the expiratory failure can be met, and that is by inspiratory movements extraordinary in power and amplitude. These extraordinary inspirations being repeated for weeks, months, and years the chest becomes permanently over-distended and hence the lungs become permanently over-distended and this is emphysema.

We have no clear and certain knowledge respecting the nature of the expiratory failure. We may conceive it to be absolute or relative. Absolute—that is to say, the elastic and muscular movements of expiration are weakened; relative—that is to say, the resistance which expiration has to overcome is increased. 1. The notion of an *absolute* debility of expiratory movement must relate to the elasticity of the lungs only, because there is no reason for supposing the elastic or muscular movements of the chest to be primarily weakened. And thus we are led back to the question of degeneration of lung tissue, either primary or secondary to other disease—an obscure topic which we will again defer for awhile. 2. But the notion of a *relative* debility of expiration is that which lies at the bottom of Laennec's doctrine, the resistance to expiration being increased by the presence of mucous plugs in the air-tubes and by swelling of the mucous membrane. True, reply his critics, but these obstructions are equally great for inspiration as for expiration, and thus we are again met by the question concerning the relative powers of inspiration and expiration—a question which is answered by reiteration of the fact that nature has provided us with very feeble means of reducing by forced expiration the distension of the chest and lungs produced by forced inspiration. The extraordinary muscles of expiration are inadequate, whilst as to the elastic tissues of the lung we may hazard the conjecture that if overstrained they do not easily recover, and it is only inspiration that can overstrain them.

Now, just to consider for a moment the question whether the over-distended chest can possibly be due to over-distended lungs. In other words, can we assume a primary over-distension of the lungs powerful enough to distend the whole thorax and to make it barrel-shaped? If so, what distends the lungs? Forced expiration is sufficient to distend certain portions of lung which are unsupported by bone or muscle, such as are the apices. But more than this is inconceivable; it is inconceivable that expiration, how forcible soever, can produce a shape of chest which is identical with that produced by forcible inspiration. Again, a favourite seat of emphysema is the undermost surface of the lung where it lies upon the diaphragm; how can coughing—an act during which the diaphragm is driven powerfully upwards—over-distend this portion of lung? Surely it is the powerful inspiratory descent of the diaphragm which produces this effect; and let us remember that the forced expiration of persons coughing, of musicians, or of horses tugging up a hill is rendered possible only by a preceding forced inspiration. In short, we cannot understand the occurrence of a primary over-distension of the lungs sufficient to distend the thorax.

Now to discuss and finally to dismiss the question of the degenerative lung changes. In the first place, it is probable that the elasticity of the lungs is injured if the tissues be much or often overstretched, and any such loss of elasticity must tend to increase emphysema by weakening expiration. In the second place, it is very reasonable to believe that the anæmia, which is the visible and undoubted result of over-distension of any portion of the lung, will cause degeneration and atrophy of the tissues thus imperfectly supplied with blood. In the third place, it is possible that there is such a lesion as primary atrophy of lung, analogous to the atrophy and perforations which we often observe in the omentum, falx cerebri, and valves of the heart. In the fourth place, it is not unlikely that the form of pulmonary emphysema in which the total size of the lung is not increased, "atrophous emphysema," is an atrophy of the second or third kind. And, lastly, there are good grounds for believing that even ordinary progressive emphysema with enlarged lungs is from its very beginning an atrophic process, even although to the mind's eye the destruction be secondary to the distension.

To end our inquiry by recapitulating the results at which we have arrived, I submit to your judgment these propositions:—That pulmonary emphysema is chiefly due to forced inspirations, although forced expiration may to some small extent play its part. That the distension of the lung in so far as it is due to inspiration is secondary to distension of the chest. That the forced inspiration is rendered necessary by a feeling of dyspnœa. That the dyspnœa which occurs at the beginning of pulmonary emphysema and which determines it is consequent upon obstruction of the air passages. That in chronic progressive emphysema this obstruction depends upon bronchitis, either humid and attended with free secretion or dry with scanty secretion. That when once emphysema is set up the dyspnœa and the necessity for forced inspiration are increased by the natural defect of expiratory power in the lungs and in certain parts of the chest nature having provided means insufficient for reducing excessive inspiratory distension to the normal and for thus emptying the lungs of residual air. That the degeneration and atrophy of lung tissue are usually dependent upon preceding over-distension, although it is possible that pulmonary atrophy may to some extent be primary.

Allow me to conclude by appropriating the words of the most ancient of the Greek philosophical poets—"These opinions have seemed to me to resemble the truth."

LECTURE III.

Delivered on March 23rd, 1899.

ON THE NATURE OF ASTHMA.

MR. PRESIDENT AND GENTLEMEN,—I propose to devote this day's lecture to a discussion of the nature of asthma. The topic you will, perhaps, consider to be almost exhausted. However, I invite you to the discussion because even if we cannot predicate all that asthma is, yet the time has come, I think, when we should finally dismiss certain opinions which have for two centuries impeded the attainment of clear notions upon the pathology of the disease.

Before proceeding to the argument it is desirable that we should come to an agreement as to the meaning of the word "asthma." It was used in a simple etymological sense until the time of our distinguished Fellow, Dr. Thomas Willis, in the middle of the seventeenth century. Asthma before his time denoted any kind of panting, gasping, pursy breathing, such as follows upon running or exertion. Hence asthma and dyspnœa were synonymous for most of the older physicians. A few, such as Celsus, signified by asthma the highest degree of dyspnœa, but this was all; asthma was never regarded as a special sort of dyspnœa. In reading the writings of the ancients we must always bear this in mind and beware of importing into their generic use of the word the special meaning which it bears in modern times. Indeed, so far as my limited reading enables me to judge, I should say that what the ancient physicians have left us concerning asthma is of very little value. It is interesting to note that those most conservative of people, the illiterate, continue to use the word in the sense of Hippocrates and Galen.

Thomas Willis was the innovator upon the doctrine of the ancients. His opinions, in their mature form, are found in the second part of his Rational Pharmaceutic, published in 1675, after his death in the same year. He says, truly enough, that the ancient physicians and also most moderns up to his time had admitted only one kind of asthma, that which he calls pneumonic asthma and which had always been deemed to be the result of the air passages of the lungs being obstructed or not open enough. It would be a more accurate expression to say that the ancients regarded all cases of asthma as pneumonic and dependent upon bronchial obstruction. From this pneumonic asthma Willis distinguishes a second kind which he calls convulsive asthma, the primary fault being in the motive organs of the lungs, to wit, in the moving fibres or muscular coats of the air vessels or in the diaphragm and muscles of the chest or in the nerves of the lungs and chest or in the origin of those nerves in the brain. There is also, he says, a mixed asthma, both pneumonic and convulsive, and inveterate asthma is usually of this kind.

You will observe that Willis's doctrine is very comprehensive and that he vaguely anticipates all the theories of asthma which have been propounded since his day. His new notion of convulsive asthma was soon laid hold of; the term "asthma" came to be reserved for the exclusive denomination of that form of the disease which was believed to be spasmodic; and this is the sense in which the word is still used by most persons even in our own day. Willis's influence upon this question of pathology has been so great that the present lecture is to a large extent an endeavour to determine whether he was the discoverer of an important truth or the parent of a delusion. A satisfactory definition of the word "asthma" will be the end of our discussion, if we succeed in attaining a clear and distinct notion of the nature of the disease, for, as Milton, writing in the spirit of both Plato and Aristotle, says: "Definition is decreed by logicians to consist only of causes constituting the essence of a thing." But meanwhile we may perhaps be able to agree upon a sort of provisional definition logically less exact. Thus, some diseases are defined, accurately enough, by means of what are called their anatomical characters, or the attendant lesions of structure, and some diseases are defined less accurately by their symptoms or the attendant lesion of function. Let us examine asthma from these two points of view.

First, what is the morbid anatomy of asthma? Here I must ask your attention to a very curious and remarkable fact. You may look through a large book upon asthma, an elaborate treatise deserving the repute it has gained, and you will find no chapter dealing with morbid anatomy. Yet surely some asthmatic patients die uncured and some of their bodies are examined, and in all the bodies examined material lesions are found; what are they? Now many of these lesions are found in some bodies only and therefore cannot have anything to do with the immediate cause of asthma. Some of these inconstant lesions are those which are apt to occur in the decline of life and it is noteworthy that Rostan, the discoverer of softening of the brain, who practised at the Salpêtrière in Paris, the great hospital for old infirm women, after asking the question—Whether the asthma of old people be a nervous affection? replies as the invariable result of his post-mortem examinations, That the asthma of old people is a symptom of an organic lesion and especially of atheroma of the aorta and of hypertrophy of the heart. Most physicians of our day would probably agree that Rostan's opinion is correct so far as its general principle is concerned—namely, that organic lesions in the chest are found—but he errs in his particulars by being far too exclusive; several morbid [illegible] more frequently met with than those [illegible] such lesions as tuberculous affections of the lungs, phthisis (active or retrograde), and acute miliary tuberculosis, though often seen in persons who are not old, cannot be deemed essential to asthma. But signs of bronchitis and pulmonary emphysema are always found; and though no one would call them the anatomical characteristics of asthma, yet the fact that they are constant demands that they should not be passed over or dismissed with the remark that they are mere complications, an obvious begging of the question. That the bronchitis of asthma should be regarded as an accidental complication and by no means as an essential element of the disease is due to the fact that since Willis's time there has always been a strong tendency to look upon asthma as something mysterious and its cause as supersensual. However, you will probably assent to the proposition that either bronchitis and emphysema constitute the morbid anatomy of asthma or it has no morbid anatomy. In either case we must reluctantly conclude that structural lesions cannot help us to a definition.

Secondly, definitions based upon symptoms or disordered functions observed in the patient during life are seldom satisfactory. In the case of asthma any definition of this kind would involve so many explanations, reservations, and distinctions that it would be nothing less than a full description of the disease. I will not attempt to succeed where all nosologists have failed and I fear that we must confess that symptomatology cannot help us to a definition.

So we will proceed to our investigation in the belief that in the case of a given patient most physicians would agree whether he were suffering from asthma or not, and that we have a pretty unanimous though an indefinable notion of the disease. Yet we must admit that the notion has been inconstant, that the extent of meaning of the word has been growing narrower and narrower. Much of what Willis called pneumonic asthma has long since ceased to be called asthma at all; much of what, by way of exclusion, was formerly deemed to be convulsive asthma is now known to be dyspnœa due to disease of the heart, blood-vessels, kidneys, to poisoned blood, and other conditions which need not be enumerated. Thus there is a risk lest asthma should become a mere *caput mortuum*, a kind of dyspnœa left when all known causes of dyspnœa have been separated, the definition of the word being purely negative, indicative of what asthma is not. But asthma is not a mere *caput mortuum*.

Inasmuch, then, as our most trustworthy guides in all the physical sciences, our senses, seem insufficient to enable us to explore the essence of asthma either in the living body or the dead, we must try to grope our way by the help of reason. And we will recur to the rival hypotheses already mentioned and will debate the question which remains much as Willis left it—namely, whether asthma is a pure affection of the nervous system or whether it is all pneumonic, due, that is to say, to gross material changes in the lungs, or whether it is a combination of the two.

I. In the first place, let us discuss the nervous, convulsive, or spasmodic hypothesis.

1. That the air-tubes possess muscular coats or moving fibres was well known to Willis. That these fibres will contract under appropriate stimulus so as to diminish the capacity of the bronchia has been demonstrated many times by experiment, the vagus being the motor nerve. But farther than this our knowledge does not extend. From the best and latest works upon human physiology we cannot learn what the use of these fibres is, nor under what conditions they contract, nor whether they contract quickly or slowly, nor whether their contraction is momentary or enduring, yet surely we ought to be able to answer these questions before we can deduce a pathology of asthma from perverted function of these fibres. The prevailing feeling is that they help the bronchial walls to resist any unwonted pressure from within—that they oppose distension of the air-tubes. But even supposing this opinion to be true we are no nearer to understanding the part which these fibres have been assumed to play in the production of asthma. We will admit that it is conceivable that their contraction may cause dyspnœa, but we must make the reservation that there is no proof of this assumption. And one thing seems to be certain—namely, that if there be such a disease as bronchial spasm, pure and simple, it must be a very rare condition, because it is inadequate to explain the catarrh which manifestly attends most, if not all, asthmatic seizures. Willis himself was far too sagacious a man not to have seen the meaning of this fact. He writes thus: "Although an asthma is sometimes simple from the beginning—viz., either merely pneumonical or convulsive, notwithstanding, after either disease hath for some time increased, for the most part it gains the other to itself, hence it may be concluded every inveterate asthma to be a mixed affection." But we have already seen good reason for doubting whether this doctrine of Willis goes far enough. The whole subject of bronchial spasm is involved in so much obscurity that we cannot admit more than that it perhaps takes a share in the production of asthma but is seldom, if ever, the chief or only cause. And we will dismiss this topic by adopting the words of an able physician of the last century, Robert Whytt, "that a true nervous or spasmodic asthma, without any other fault in the lungs than uncommon delicacy or irritability of their nerves, is a disease which we seldom meet with."

2. Let us come to the muscles of respiration. When I began to lecture on medicine at St. Bartholomew's Hospital it seemed necessary that I should expound some theory of asthma. I had been much struck by observing in bad attacks of asthma the fixed immobility of the chest in a state of the fullest possible inspiration. About the same time I came across a paper by an experimental physiologist who had found that centripetal excitement of the vagus, divided below the junction of the superior laryngeal nerve, produced tetanic contraction of the diaphragm, intercostals, and other inspiratory muscles, a state of things which is necessarily accompanied by dyspnœa, and which, in this respect, resembles the asthmatic paroxysm. And so for a year or two I taught that the fit of asthma, at its beginning at least, was due to centripetal irritation of the vagus. But maturer experience soon showed me that this fixed inspiratory distension of the chest is by no means a constant attendant upon asthmatic dyspnœa, that the inspiratory movements are sometimes free and ample enough, and thus I lost all faith in the doctrine of protopathic inspiratory spasm. Moreover, what is the evidence of inspiratory *spasm* during the attack of asthma? No doubt the chest is in a state of inspiratory distension, dilated to its utmost capacity and fixed in this position. But it is more likely that this state of things is due not to inspiratory spasm but to expiratory debility. Air is imprisoned in the lungs and no amount of forced expiration can empty them. In the last lecture I showed what a very partial process forced expiration is; over many portions of the lung it has no power. If the sufferer could empty his lungs he could fill them again; it is the deflation which is at fault and the extreme inflation is due to incessant forced inspiratory efforts to make the most of what little room for fresh air can be provided by forced expiration. This fact is very well expressed in a tale told by Dean Swift of a farmer who, when dying from asthma, said: "Well, if I can get this breath once out I'll take care it shall never get in again." And thus to conclude this topic I submit that inspiratory spasm is not the cause of the asthmatic paroxysm.

3. Again, Willis thought that convulsive asthma might sometimes proceed from irritation of the pulmonary or thoracic nerves, or of the origin of these nerves in the brain. This is one of those recondite propositions which can be neither maintained nor refuted. Contraction of the bronchial muscular fibres or of the respiratory muscles, if it play any part in the asthmatic paroxysm, may *doubtless* be due to irritation of appropriate nerves, but the muscular contraction itself has not been proved to occur, and this must be done before we need discuss its causes. The influence exerted by the nervous system upon secretion, nutrition, and the blood-supply is well known as a general fact, but any particular application of this fact to explain the pathology of asthma is at present beyond our power. Thus we have no evidence to show that asthma takes its origin from the nerves or brain.

II. But if asthma be not convulsive, we are thrown back upon the hypothesis of pneumonic asthma, for we have no third explanation before us. Let us review the argument in favour of pneumonic asthma. This argument is wholly analogical. There are several diseases which resemble asthma in certain respects, more or less. Perchance we understand the pathology of these diseases somewhat better than that of asthma. If so, we may inquire whether the nature of asthma can be assimilated to that of the diseases which it resembles. It is obvious that such an argument as this is far enough from deserving the name of induction, but we will be comforted by the saying of a wise man, that to us probability is the very guide of life. Let us enumerate and illustrate the diseases referred to.

1. *A peculiar form of acute bronchitis.*—"Last summer I

went out of town to see a little boy, seven or eight years of age, whose life was very precious to his family. He was thought to be dying of inflammation of the lungs. I found him raised up in bed, supported by his nurse, and breathing with all his might. His skin was hot, his face flushed, and his chest heaved, and his nostrils quivered frightfully. There was no croupy sound. Whatever the disease was it was all within the chest. I percussed the chest: it sounded well in every part. I listened: the air entered freely and reached every cell and vesicle of the lungs; but there was not the least perception of the natural respiratory murmur, a shrill sibilus had taken place of it altogether. Wherever you applied your ear to the chest you might fancy you heard the piping and screaming of a nestful of unfledged birds." Probably many of you will have recognised the hand of Dr. Peter Mere Latham in the somewhat rhetorical character of the description I have just read. I have set before you his description of the disease because it serves as an emphatic text and not because the affection is very uncommon; it is alluded to by many of the best authors and I myself have seen a considerable number of cases. Latham goes on to say: "I am speaking of a disease which must be distinguished from asthma according to the usual acceptation—a disease not habitual to the individual and of which, perhaps, he has never suffered a previous attack." But of course an asthmatic must have his first attack, to which Latham's criterion of habit cannot be applied, and unless he had told us that his patient had never before suffered from a similar attack and never had one afterwards his argument that the disease was not asthma falls to the ground.

Latham's patient certainly suffered from acute dry pulmonary catarrh, to use the phrase of Laennec; but in this form of disease the catarrh is not always dry; on the contrary, small mucous râles are sometimes heard all over the chest. I saw a girl, four years old, who one morning had a little cough but was quite well in all other respects. In the afternoon she suddenly became much worse and her state alarmed everybody. In the evening her distress, dyspnœa, and lividity were great; the upper part of the chest expanded considerably on inspiration, but there was at the same time much depression of the root of the neck, of the epigastrium, and of the base of the chest. All over the lungs small mucous râles were heard. Her voice and cry were natural so that there was no reason for suspecting laryngeal disease. Her temperature was below the normal. I was told that she had suffered from several sharp attacks of what had been called "bronchitis" and "congestion of the lungs"; that she had been subject to eczema all over the body; and that her father's father and brother had been "asthmatics" until they reached maturity. The very same night she improved much and next day she was comparatively well; recovery was rapid.

The chief characteristics of this form of bronchitis may be thus enumerated: the rapidity with which the dyspnœa becomes extreme; the attendant fever, little or none; the whole attack seldom lasting more than two or three days; and the great tendency to recur. In the intervals most of the patients are free from pectoral symptoms, but in some cases emphysema occurs and I have seen it well marked in a patient only three years old subject to this disease. Most of the children have suffered from eczema and most of them come from families prone to asthma, bronchitis, and gout.

When we inquire into the previous history of patients who during youth have been liable to undoubted asthma we find that in a certain number of them their disease dates from one or more attacks of this kind. And surely these attacks *were* asthma from the very first, although they were not deemed to be so at the time but were called in Latham's language "acute bronchial inflammation putting on a peculiar form and affecting a peculiar course." The bronchitis does not cause the subsequent asthma, but it is asthma; the two diseases are identical in nature and the asthma is bronchitis, although a peculiar form of bronchitis.

2. *Spasmodic croup.*—This is an old phrase now seldom used, yet I do not know that we have a better. It is not a good phrase, because it implies a hypothesis which is probably untrue. The disease is characterised chiefly by acute dyspnœa; indeed, most of the cases described by Millar in the last century under the name of "acute asthma" were cases of spasmodic croup. Spasmodic croup is not laryngismus stridulus, for the dyspnœa of laryngismus is momentary, whereas that of spasmodic croup lasts for several hours and on and off for days. Spasmodic croup is not quite the same thing as laryngitis stridula—a disease which is characterised more by dysphonia than dyspnœa. Dr. Benjamin Rush of Philadelphia was the first to apply the epithet "spasmodic" to the disease—an indication probably that he, as well as Millar, recognised a resemblance to spasmodic asthma. I enter into these details because there still exists, as there always has existed, much confusion in the use of these names. Millar's description of the disease, published in 1769, is vitiated by the fact that he does not distinguish the different kinds of acute laryngeal disease which cause dyspnœa in children. Rush's description, published in 1789, is much more precise, perhaps because more concise. He says that "the cynanche trachealis spasmodica is known (1) by coming on *suddenly* and that generally in the night; (2) by frequent and perfect *intermissions* of the symptoms for hours and in some instances for days, without the least sensible discharge from the trachea; and (3) by yielding to anti-spasmodic remedies, particularly to the warm bath." Rush had examined the body of a fatal case and had found no marks of a membrane or even of mucus in the trachea; the lungs and trachea appeared to be in a sound state.

Many persons have believed in a close analogy between spasmodic croup and spasmodic asthma. Some have even gone so far as to say that "children who have been the subjects of croup or stridulous laryngitis in their earlier years are prone to suffer from true asthma in later life," but judging from the facts of my own experience I am disposed to think that this sequence is not common. Unfortunately, the pathology of spasmodic croup is not well understood. I do not know that the glottis has ever been seen by means of a laryngoscope during the attack of dyspnœa. Could this be done it would go a long way towards clearing up the darkness which hangs over the subject. Moreover, patients when attacked by spasmodic croup seldom die and thus we are deprived of the information which minute post-mortem examination might afford. Nobody doubts that the disease implies an element of acute laryngitis, or of croup, for these two terms are almost synonymous, croup being the acute laryngitis of children. The evidence of laryngitis depends mainly upon these two facts: first, that the attack of dyspnœa is preceded for a few hours by hoarseness and croupy cough and perhaps by other signs of catarrh of the respiratory mucous membrane; secondly, that the interval between the attacks is not free from the same symptoms. Admitting, then, that there is a fundamental ground of laryngitis we must inquire in the next place into the cause of the dyspnœa, so sudden and so temporary, and here lies the difficulty. The epithet "spasmodic" begs the question by assuming that spasm of the glottic muscles is superadded to the laryngitis. But when we compare spasmodic croup with what is universally admitted to be a glottic spasm—that is to say, with laryngismus stridulus—the difference between the two diseases appears to be so great as to make us doubt whether the dyspnœa of croup can be spasmodic. In laryngismus the dyspnœa sets in very suddenly and lasts only a few seconds, for if it last longer the child will die. At any rate if the croup be spasmodic we must assume that the spasm is very incomplete and that it lasts several hours—assumptions which seem improbable. It is improbable that the spasm should be always incomplete and should never become a thorough laryngismus and thus kill the patient, whereas deaths from spasmodic croup are so uncommon that we may almost say that they do not occur. Moreover the catarrhal swelling of the laryngeal mucous membrane would render any spasm much more likely to prove fatal, and we must never forget the small size of the glottis in children when we speak of their laryngeal diseases.

But if we give up the notion of spasm are there any other explanations which we can fall back upon? Two have been offered. One was put forward first, so far as I know, by Felix Niemeyer. He supposes that viscid mucus accumulates in the glottis while the child is asleep; that this mucus becomes dry and so glues up the rima glottidis—an ingenious explanation, not wanting in plausibility, but which can be neither proved nor disproved. The chief argument against this hypothesis is found in the great resemblance between spasmodic croup and the peculiar form of acute bronchitis which we discussed just now. In both diseases, the same slight premonitory catarrh, the same sudden onset of alarming dyspnœa in the afternoon, the same speedy abatement of the dyspnœa, the same freedom from fatal results, and the same tendency to recur. Now, there is no reason for thinking that the bronchitic dyspnœa is due to accumulated mucus, still less to dried mucus; and hence we may well doubt whether spasmodic croup is due to these conditions. But yet, until we can bring our senses to bear directly upon the glottis, until we can see what actually takes place, we may admit that there is possibly some truth in Niemeyer's hypothesis. How often are we tempted to exclaim with the surgeon in the old novel, "A fig for reason, I laugh at reason; give me ocular demonstration."

The other explanation seems more probable. It supposes a sudden and temporary swelling of the mucous membrane of the larynx, such as sometimes occurs in the pituitary membrane during acute coryza when one nostril becomes suddenly blocked, and not by mucus, so far as can be made out, or at least no mucus can be expelled from the affected nostril. In the case of the nose this sudden swelling can be easily understood, for anatomists tell us that the veins of the mucous membrane over the turbinate bones constitute a cavernous structure and that the membrane in this situation is erectile. No structure of this kind has been detected in the mucous membrane of the larynx and hence the argument from analogy is weakened in a corresponding degree. In short, the opinion that spasmodic croup is due to sudden swelling of the mucous membrane depends mainly upon reasoning by way of exclusion, there being fewer objections to this pathology than to the hypotheses of spasm or of mucous obstruction.

Leaving these dry catarrhs of the respiratory tract let us turn our attention to certain catarrhs of a character exactly opposite, being attended by abundant secretion of mucus, for these catarrhs also have a close affinity with asthma.

3. *Paroxysmal coryza.*—In the first place, we will consider paroxysmal coryza or "paroxysmal sneezing" as it is sometimes called. And let me set before you a vivid picture of the disease drawn by a sufferer, a married lady, aged 29 years. I copy the exact words of a letter she wrote: "Severe cold in the head every morning for two or three hours after waking; continual running of the nose, sneezing, watering of the eyes; pocket-handkerchiefs are of no use, I have to use towels. Frequent fits of violent sneezing, perhaps repeated a dozen or 20 times. Continual rising of phlegm into the mouth in the morning on waking; often an accumulated mass of phlegm has to be got rid of. Loss of taste and smell and impaired voice in singing. The above symptoms have been present for five years, though they have increased of late. In addition the following have occasioned trouble during the past nine months: a wheezing in the chest, difficulty in breathing, or in taking a deep breath. At times this prevents me from lying down at night; at least I go to sleep in the usual way, but am disturbed three or four hours after by a feeling of suffocation and am obliged to spend rest of night sitting in a chair. This feeling sometimes comes on without any warning. Last week, when returning from a dinner party, I suddenly became oppressed in breathing, and had quite to struggle for breath for 10 minutes or so. Violent exercise, such as running and, I think, swimming, also hearty laughing, produces much the same effect—viz., a wheezing and difficulty in breathing freely. Voice in singing much fallen off. Damp weather and cold winds seem to increase the tendency." Thus far the patient's own report, to which the following facts may be added: there was a tendency in her family to asthma, eczema, and gout; she herself never had eczema, but it had appeared in several of her relatives, and also in her only child, 15 months old.

The connexion between paroxysmal coryza, asthma, and eczema is remarkable. A girl, 11 years old, had suffered from frequent attacks of asthma since the age of two years. Moreover, she had always been liable to fits of bad sneezing with running from the eyes. This sneezing was sometimes followed by asthma, sometimes not. When a baby she had eczema. In her father's family there was a tendency to eczema and gout, but not to asthma; in her mother's family there was probably a tendency to asthma. She had a younger brother who also was asthmatic, and who suffered from eczema in infancy. The girl, the brother, and the mother were all of a dark complexion. A second girl, sister of the patient, was of a fair complexion and had shown no tendency to asthma.

A boy, two years and a half old, became eczematous at six months of age. The eczema cleared off at 12 months and then he began to suffer from asthma. And mark that his attacks of asthma began with sneezing and running from the nose and that an evidence of the chronic nature of the coryza was afforded by the ill-developed condition of the bridge of his nose. But there was no obstruction to his breathing in the nose itself.

At the risk of wearying you let me give you a brief outline of another case which shows the connexion between this recurrent coryza and spasmodic croup as well as asthma. A lady, thirty years old, was subject to spasmodic croup when a child and had been liable to bronchitis all her life. Since the birth of her first child three years ago she had become asthmatic—that is to say, she was continually rather short of breath, but, more especially soon after arising in the morning or upon any sudden effort; her breathing would sometimes become very bad, she would turn blue, and the whole attack would last two or three hours; it had occasionally recurred three or four times in the day. Moreover, for two years she had been subject to attacks of sneezing almost daily, with copious distillation from both nostrils, as bad in winter as in summer. There were no objective signs of disease in the chest, nasal fossæ, or pharynx.

It is no part of my plan to discuss the relation which exists in some cases between these paroxysmal disorders and permanent disease of the nasal and post-nasal regions. But with regard to the actual attack of coryza let us observe that it is more than a mere defluxion of mucus. The mucous membrane of the nasal fossæ is swollen, especially the cavernous tissues over the turbinate bones, which swelling may be enough to make the opposite surfaces of the mucous membranes touch, and to the tickling sensation which ensues upon this contact much of the sneezing and much, in all probability, of the distillation are due. The fact that in some cases asthma very quickly follows coryza suggests the notion of a rapid spreading of the catarrhal affection downwards along the respiratory tract; what in the upper part is a paroxysmal coryza becomes in the lungs paroxysmal dyspnœa or, in other words, asthma.

4. *Paroxysmal bronchial flux.*—Closely allied as paroxysmal coryza and asthma undoubtedly are there is an obvious unlikeness between them in one respect—namely, in the amount of mucous secretion. But there is a peculiar form of what Laennec calls acute pituitous catarrh of the bronchial tubes, which more exactly resembles recurrent coryza in the abundance of the flux, its short duration, and its tendency to recur.

"A woman, aged 32 years, corpulent and of fair complexion, had suffered for some months from an obstinate cough, when one evening she was attacked by a complaint which very much resembled the paroxysm of spasmodic asthma, except that it was much more violent than first attacks of that disease usually are and that its remission was attended with a very copious discharge of frothy serum from the bronchial tubes, which was thrown up by a slight though almost continual cough." On the next morning she was much better and she soon recovered. Some months afterwards she had another attack of the same kind and about 18 months after the first attack she had a third, much more violent. "She was suddenly seized with dyspnœa attended with a convulsive kind of cough which in less than five minutes from the time of attack increased so as to produce the appearance of suffocation. Her senses forsook her, her face became livid, her extremities were cold, and the action of the heart was so much diminished that no pulsation could be felt in the wrist, and but very little in the left side. She remained in this state nearly two hours, during which time a very large quantity of frothy serum tinged a little with blood was discharged without any visible effort by the mouth and nostrils. About the end of that time some very faint and involuntary efforts to cough came on which gradually increased and with every effort large quantities of the frothy serum were thrown off; perhaps the whole quantity might amount to three or four pints. About three hours after the beginning of the attack the difficulty of breathing became very sensibly diminished and her senses were observed to return." In a few hours she had recovered so as to be much the same as she was before the seizure. After a somewhat longer time she had attained the condition of a person in the best state of health. This woman was a patient of Mr. Thomas Baynton of Bristol and her case is narrated in a book published by the well-known Dr. Thomas Beddoes of the same city. You will have observed that the profuse expectoration is said to have been "serous," but this word is no doubt used in a loose sense, for Beddoes who was a good chemist expressly says that the fluid was ascertained by careful inquiry to be mucus, and not saliva, as he at first suspected. In my first lecture on bronchitis I spoke of acute pituitous catarrh, always a serious disease; and Baynton's case was an instance of this affection but peculiar from its tendency to recur, and in this respect closely resembling paroxysmal coryza and asthma.

5 *Hay fever.*—In this place I might refer to the fact that hay fever, which usually assumes the form of coryza and lacrimation, sometimes becomes an asthma. The paroxysms of hay asthma and of what we call ordinary spasmodic asthma differ in no particular. But this topic has been so fully discussed by our late distinguished President (Sir Andrew Clark) whose opinions are doubtless well known to you all that I need not allude to them here. I will only repeat that the cause, whatever it be, of hay fever will produce ophthalmia, coryza, or asthma according to the portion of the mucous membrane which is affected.

And to sum up the argument in favour of the opinion that asthma is (in Willis's phrase) pneumonical, as distinguished from the convulsive form of the disease, the assumed bronchial obstruction being due, not to *any sort of spasm*, but to what he calls an afflux of humours upon the air passages. We have seen that there are *five or six* affections of the respiratory tract which are closely allied to asthma and which may be said *to constitute, together with asthma, a* special class of diseases, characterised as follows. They set *in suddenly, they speedily reach their highest point of* severity, their duration is short, they are apt to recur, and *in the intervals* the patient *is more or less free from signs* of disease until the catarrh becomes chronic. The tendency to the *disorders is hereditary* and runs in *families*; many patients manifest a tendency to two or more of these complaints. If the *force* of these analogies be admitted we may carry the argument farther and observe that all these diseases are catarrhal. Now catarrh implies two conditions—namely, increased secretion and swelling of the membrane, but as matter of fact neither of these conditions is constant The defluxion or increased secretion may be absent or at most may be very small, and this constitutes Laennec's dry catarrh. The swelling is more constant, at least in acute catarrh; in paroxysmal coryza, which has so close an affinity with asthma, the swelling can be seen; moreover, both defluxion and swelling occur with great rapidity. The two concomitants of catarrh will explain the most important symptoms of all the disorders in question, including asthma.

If we consider the catarrhal tendency to be due to an inherent delicacy or vulnerability of the mucous membrane, a tendency usually inherited, we seem to be able to understand the reason of the fact that asthmatic persons during childhood are so often liable to eczema, which may be deemed to be indicative of a similar condition of the skin.

In the earlier part of the lecture we arrived at the conclusion that the doctrine of a spasmodic asthma is very imperfectly supported by *facts* and now the argument has led us to believe that all asthma is merely a peculiar form of bronchitis *and that there is no need for any hypothesis of spasm in* order to explain the phenomena of the disease. Should it be objected that bronchial *spasm may* possibly aggravate the effects of catarrh we may appeal to the philosophic law of parcimony—*Entia non sunt multiplicanda præter necessitatem.* You know that this is not a new doctrine. Many years ago it was maintained very ably by Beau. Sir Andrew Clark arrived at the same conclusion by a different path—by noting how one and the same cause, hay fever, produces sometimes coryza, sometimes asthma, and sometimes both together. Which element of the catarrh, defluxion or swelling, obstructs the tubes is a question which naturally arises. The interesting observations of Lefèvre, published more than 60 years ago, upon the expectoration of peculiar mucous cylinders, which he compared to cooked vermicelli, towards the end of an asthmatic attack render it very probable that both secretion and swelling concur to obstruct the bronchia. But there remains another and much deeper question which concerns the asthmatic tendency—in what does it consist? Why are some persons prone to asthmatic catarrh and others not? Why does the disposition run in *families*? What is the bond which in so many cases connects the several diatheses of asthma, eczema, and *gout*?

For the solution of such problems as these and for the advancement *of all medical learning, may a succession of* men like Harvey and Willis never be wanting to our venerated College.

BLACKWATER FEVER.[1]

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IN venturing to bring under notice the disease called "blackwater fever" or "*hæmoglobinuric fever*" I would submit that we are dealing with a subject of vital importance as regards our colonies. It is admitted that this complaint is the cause of more deaths and invaliding than all the other diseases from which Europeans suffer in West Africa, and the same remark applies to the opposite side of the continent. Koch, for instance, states that this disease creates the greatest havoc *amongst Europeans* in German East *Africa.*[2] The disease, however, is not confined only to Europeans, for on the Congo railway many of the Chinese labourers died from it. It has been considered to be rare amongst Africans; however, I am told that many died from it while working on the Panama Canal; and recently, we are *informed,*[3] *there has been a serious outbreak of it* among the blacks in the Cameroons, the disease specially attacking *those who had come to the coast from the interior.* When I first went to West Africa in 1886 blackwater *fever was a complaint about* which very *little had* been written and the ordinary English text-books did not even *mention the existence of such a disease.* Dr. C. H. Eyles had published a brochure on the fevers of the Gold Coast[4] in which a considerable amount of information is given about the disease, and an interesting account of a case of blackwater fever was published by Dr. Easmon in the *Medical Times.*[5] In 1892 I published a small book on the malarial fevers of the Niger, of which a large portion was devoted to this subject.[6] The study of this complaint received a considerable impetus when Dr. Patrick Manson, on March 15th, 1893, read before the Epidemiological Society an interesting paper on African hæmoglobinuric fever.[7] Since that time more and more attention has been given to the disease and more especially quite recently on account of the statement made by Koch that blackwater fever is due to quinine poisoning.[8] I have already attempted to answer Koch's contention that blackwater fever is simply quinine poisoning in a paper read before the Guy's Hospital Physical Society in October last.[9] I have also dealt to some extent with the pathology of the disease, as evidenced by a case which I saw in England with Mr. Wooldridge of Camberley, in a paper which I read with Mr. Pakes before the Pathological Society on Dec. 20th, 1898. I hope here to review the subject and to lay before you a definite statement as to the opinion which I hold with regard to its pathology, causation, and treatment. I cannot let this occasion pass without mentioning how deeply I am indebted to *Dr.* Washbourn, who years ago urged me to write on this subject and showed me the first malarial parasites *I had seen.* I *also take this* opportunity of thanking Dr. R. Howard who has just started for East *Africa, to whom I am indebted for much help in* this paper. On account of his special training we may look *to him* in the near future for valuable information about the disease under consideration.

DEFINITION.

By blackwater fever, or hæmoglobinuric fever, I mean a febrile disease of malarial type characterised by hæmoglobinuria, jaundice, and vomiting. The name, "blackwater fever," was given on account of the darkness of the urine which could scarcely fail to attract the attention of the sufferers. The colour of the urine is due to the presence of hæmoglobin or methæmoglobin and not of blood, although in some attacks *nephritis may occur* and *real hæmaturia* result. Blackwater fever should not be used to include those attacks of malaria in which nephritis is a primary symptom and which are attributed to plugging of renal capillaries by malarial parasites. My clinical descriptions will be based on my observations of the fever on the West Coast of Africa during nine years' service in the Royal Niger Company, in which time I saw about 100 cases.

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[1] A paper read before the Epidemiological Society on March 17th, 1899

[2] R Koch · Das Schwarzwasserfieber. Arbeiten aus dem Kaiserlichen Gesundheitsamte, 1898, xiv, 304

[3] F Plehn: *Die Kamerun Kuste. Studien zur Klimatologie, Physiologie und Pathologie in den Tropen,* 1898. (Preface, p iii)

[4] Malarial Fevers as met with on the Gold Coast.

[5] Medical Times, August 29th, 1885, p 277.

[6] Notes on the Malarial Fevers met with on the River Niger.

[7] Transactions of the Epidemiological Society of London, vol xii, 1892–93, p. 111.

[8] R. Koch: loc. cit., 307–8

[9] Guy's Hospital Gazette, Oct. 8th, 1898.

DISTRIBUTION.

Since attention has been drawn to blackwater fever the disease has been recognised in several parts where it was formerly considered to be unknown or, at any rate, extremely rare. For instance, when I had one of my earliest attacks on the Niger the medical man who attended me did not recognise my illness as blackwater fever and mistook the colour of the urine for that due to bile. Sometimes when hæmoglobin and albumin were recognised they were thought to be due to a renal hæmorrhage complicating the malarial attack and until quite recently the disease was often spoken of as hæmaturic fever. Many cases have been called yellow fever. I do not think the disease is a new one. Manson states that it was first described by naval surgeons stationed at Nossi Bé, a French settlement off the North-west coast of Madagascar.[10] Plehn quotes Bérenger-Féraud as stating that the disease existed in West Africa in 1820. He further says that it can first be proved to have become prevalent about 1850.[11] The first fatal case on the Gold Coast is believed to have taken place in 1832. It is common throughout West Africa, including the Gold Coast, Sierra Leone, Nigeria, Cameroons, and the Congo and Gaboon regions; it is also common in East Africa—for example, in Uganda, German East Africa, and in the Zambesi districts. I have seen one patient who seems to have suffered from the disease in Somaliland. It has been considered very rare in India but it is probable that it has been overlooked, for recently 11 cases have been described by Mr. Arthur Powell as occurring in Assam and which he states were "identical with the fevers I have seen in those returned from the Gold Coast."[12] It is frequent in certain tropical parts of North and South America and in Cuba. The disease is said by Manson to have been epidemic among the labourers employed in making the canal through the Isthmus of Corinth. Cases are reported from China, and Plehn states that its existence has also been proved in Italy and Sicily, New Guinea, and Java. The disease is stated to be becoming more prevalent in Africa. This cannot be entirely accounted for by the increase in the white population. I attribute its increase in certain parts of West Africa partly to the fact that as the country is becoming more opened up the traders live more on shore than they formerly did, for in the old days trade was in parts of the Niger Delta carried on on the hulks which were stationed near the mouths of the river for that purpose. Another reason appears to me to be the fact that stores, houses, factories, and wharves have to be erected, which of course necessitates considerable disturbance of the soil; in addition to this, large plantations are being formed now that it is recognised that West Africa is, amongst other things, a capital coffee-growing country.

It may not be out of place here to quote from my own lecture[13] the following: "Some will ask, Why has blackwater fever become so common recently? The first case on record in the Niger Territories is, as far as I know, my own, some 10 years ago. The first case in the Niger Delta is said by some old coasters to have occurred in 1882. It seems to me that since we have begun to turn up virgin soil for coffee and other plantations that the disease has become common. When I went to the Niger in 1886 there was not a single plantation. Very soon large plantations were started. I believe I was the first to start them, for I took out with me a great many seeds of English fruit, and soon after these were planted an experimental plantation was started, first at Asaba, then at Abutshi, some 150 miles up the river. It is significant that our first three gardeners died from blackwater fever and that for some considerable time cases only occurred near the plantations, and as plantations became more common so the disease spread to the other stations in the territories."

Outbreaks of blackwater fever have been specially noted when the dry season has been prolonged and very hot and when, therefore, lagoons and ponds which have been long covered with water have been dried up; the same thing has been observed when the rainy season has been broken up by long spells of drought. Easmon, in 1881, had four cases of blackwater fever under observation and attributes these attacks in some degree to the extreme drought of the season, drying up the extensive Quettah lagoon which had been covered with water for twelve years.[14]

CLIMATE AND CONDITIONS OF LIFE.

The River Niger, near the sea, forms an enormous delta and opens by many mouths into the Gulf of Guinea; this delta which consists of mud and sand is covered with mangrove forest and jungle; it is divided and subdivided in every direction by creeks, and as the tide goes out the shore shows itself as a foul mass of mud through which pour turbid streams on their way to the sea. The level of the land is so slightly above that of the water that it is being constantly washed away and where Europeans settle the ground is protected by pegging it round with sticks and constantly backing them up with heavy clay in order to prevent the sea from washing it away; to act as a further protection old hulks and lighters are run close to the shore and left there till they sink or fall to pieces. The earth is constantly damp, for the subsoil water is close below its surface and the ground is itself frequently drenched with heavy rains. The average temperature is about 80° F. and the difference in 24 hours is often less than 10 degrees; the air is highly saturated with moisture, for the rainfall is very heavy, being between 125 and 150 inches in the year. Sometimes in one day it is enormous. For instance, on turning to one of the meteorological reports of the Royal Niger Company, kindly lent to me by Sir George Goldie, the Governor, I find that at Akassa (the port of the Niger) on May 22nd, 1887, it was 4·030 inches, and on May 27th, 1888, it was 5·905 inches.

Owing to the great amount of moisture a mist frequently hangs over the land like a pall, whilst keys rust in one's pocket and boots put away for a day or two become covered with a heavy mildew. Periods of rain are interrupted by times of excessive drought, during which the ground splits and cracks in all directions, exhaling a peculiar stench from the decaying vegetable matter with which it is so largely impregnated. When to the above is added the fact that in the delta regions it is often difficult to obtain fresh meat and always impossible to get a supply of fresh vegetables it will be seen that the conditions of life are not favourable to Europeans. Finally, when we consider that mosquitoes and other blood-sucking insects abound it will be conceded that malarial germs here find a congenial home and in the debilitated Europeans a soil suitable for their growth; and it will not cause us surprise when we find that these regions are prolific in cases of malignant malaria. Farther inland, say 150 miles up the river, the same conditions largely prevail, for the land, alternately drenched and scorched, is covered with a rank jungle. In the wet season the Niger is a splendid rolling river, in parts a mile broad, and capable of bearing sea-going vessels of deep draught; but in the dry season it diminishes so much that its bed is exposed in many parts and it is with difficulty that a small vessel drawing four feet or five feet of water can be navigated through its narrow channels. At the height of the wet season the land is in many parts inundated with water; native huts are flooded and are frequently swept away. I have often seen a native fishing from a canoe in his own house. As the river falls its banks are exposed to the fierce sun and at low water they may be 26 feet or 30 feet high. Away from the river large ponds, lakes, and lagoons are found and these wholly or partially dry up in the hot weather. The natives live in mud houses, under the floors of which they frequently bury their dead. To build their houses it is necessary to dig huge pits in order to obtain the clay suitable for the purpose; these pits are not filled up, therefore they are found all about their towns; the rain partially fills them with water, which stagnates, and low forms of vegetation luxuriate within them; in these pits all kinds of filth are thrown and here snakes, mosquitoes, and other abominations find a pleasant retreat and a quiet breeding-ground.

I have said enough to show why malaria runs riot in these regions; one other factor, however, must not be omitted: I refer to the "conscientious objector"—and he is also in evidence here—for many of the Europeans have an abiding faith in the pernicious effects of quinine in all malarial cases, whether slight or severe. I have a patient of this class now under my care. Recently he was invalided home on account of repeated attacks of malaria; his medical man supplied him with the quinine necessary for the voyage, but a fellow passenger knew better than the medical man and he and some others persuaded the sufferer to take five grains of quinine every third day instead of twice a day as had been ordered. When I saw the man he was in apparently a hopeless condition and ring-shaped parasites and crescents were plentiful in his blood. He took quinine in full doses and in four days he was able to sit up in his front room. The poor fellow was very grateful, and as he shook hands with me he said that he knew I had had to try the quinine kill-or-cure remedy and he was glad I had not given him blackwater fever. Of course it will be understood that in the higher lands of Nigeria the conditions of life are much more favourable to Europeans.

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[10] Tropical Diseases, p. 61.

[11] F. Plehn: loc. cit., p. 104.

[12] Journal of Tropical Medicine, vol. i., No. 5, p. 117.

[13] Guy's Hospital Gazette, October, 1892.

[14] J. Farrell Easmon: The Nature and Treatment of Blackwater Fever, 1884, p. 2.

DIAGNOSIS AND SYMPTOMS.

Besides the hæmoglobinuria which gives the name to this disease there are three other symptoms which are constantly present. Reports of cases are now frequent in which one or other of these other symptoms is absent; such must be accepted with the greatest caution. However, it must not be forgotten that the same disease often varies in its intensity and symptoms in different parts of the world and in different patients and that it is modified by the patient's condition of health, his food, his surroundings, and many other things. There are, in fact, four cardinal symptoms—viz., (1) fever; (2) hæmoglobinuria; (3) jaundice; and (4) nausea and vomiting of bile. We will now consider these symptoms in detail.

Fever.—I contend that the hæmoglobinuria comes on during an attack of fever clinically resembling an ordinary malarial fever. Often the temperature is not taken before the hæmoglobinuria has been observed; the patient feels, perhaps, that he has on him a more or less severe attack of fever but does not trouble much about it, expecting that he will pull through all right as he has frequently done before. Usually the first warning is a sharp rigor on the second or third day of the fever; the patient's temperature will rapidly rise to 103° F. or higher and the next specimen of urine which he passes will be found to be hæmoglobinous. Coincident with this the temperature frequently falls, often to normal; this drop I regard as probably due to the virtual hæmorrhage and wholly analogous to the fall which accompanies hæmorrhage in typhoid fever. It has not the importance which is often given to it and certainly does not justify the argument used by some that blackwater fever is never malarial because the temperature is not maintained for two or three days, as is often the case in ordinary African malaria. Subsequently to the drop the temperature may rise, but not as a rule very high. In fatal cases in which collapse is present the temperature is often subnormal unless it rises owing to complications. In some cases, though, there is a daily remission, yet the temperature continues to rise till death closes the scene.

Hæmoglobinuria.—The colour of the urine may be any shade between light red and that of porter, depending partly on the amount of urine passed and partly on the quantity of colouring matter present. This is undoubtedly in most cases either oxyhæmoglobin or methæmoglobin or both. Thayer, however, states that the colouring matter is always present in the form of methæmoglobin.[15] Albumin is, of course, always present; as a rule bile is absent though it is somewhat difficult to recognise in the presence of hæmoglobin; and many observers—e g., Plehn—state that they have noted it. On shaking up the urine the froth is pink in colour. I note that Thayer mentions the greenish froth of the urine of patients suffering from hæmoglobinuric fever; if there is one thing of which I am certain it is that the froth of the urine of blackwater fever is in West Africa always, as far as I have seen it, of some shade of red. On microscopical examination none, or only very few, red discs are to be found, but hæmoglobin casts of the renal tubules are plentiful. Nothing else abnormal is constantly found; of course, as in all albuminous urine, bacteria and torulæ grow freely if it has been allowed to stand for any length of time. Blood discs may be present after a day or so as a result of nephritis set up by the hæmoglobinuria.

Jaundice.—It is to be noted that although jaundice is present bile is usually absent from the urine. Copeman states that bile is either entirely absent from the urine or is present in an insignificant amount;[16] at the same time there is plentiful elimination of it in the vomit and the motions. There are none of the usual accompaniments of jaundice, such as slow pulse, itching skin, &c. The jaundice appears to me always to precede the hæmoglobinuria. Bérenger-Féraud says that icterus appears at the onset of the attack.[17] Easmon in one of his cases[18] notes at 9 A.M. that the urine was only highly-coloured and that there was slight jaundice, and that about 3 P.M. the urine was black; and in his paper on the Nature and Treatment of Blackwater Fever (p. 2) he says that the jaundice, which is uniform, is seen from the very first onset of the disease. Now we hear of cases in which jaundice appears only after the hæmoglobinuria. Up to the present I agree with Easmon on this point; but the study of the disease is so recent and the reported cases are so few that I am quite willing to admit that on this, as on many other points in this interesting complaint, further knowledge may cause the older observers to make some modifications of their opinions. The jaundice, as a rule, deepens while hæmoglobinuria is present and gives to the patient a greenish-yellow appearance.

Nausea and vomiting.—These are the most distressing symptoms; they are usually very persistent and hence give much trouble in the administration of drugs and nourishment. The colour of the vomit is usually characteristic, it being of a bright or olive-green colour. Cases are reported without any mention of green vomiting, but I can only say that I have found it to be an almost constant symptom in bad attacks and something of a guide as to the severity of the complaint. I have recorded a case (Case 12) in which there was little or no vomiting.[19] This symptom is regarded as constant by Bérenger-Féraud. He says: "The vomiting is bilious, of a decided green colour; it is a constant symptom at the outset of an attack. It stains the linen of a bright green and when collected in a basin is of a beautiful green or olive colour."[20] In Easmon's case before referred to he states that the patient vomited a clear green fluid which contained particles like chopped spinach. Fisher[21] states that vomiting does not appear if the patient has an empty stomach or if he has some hours previously to the hæmoglobinuria been put on a milk diet; I cannot say that this has been my experience.

Other symptoms.—Amongst the other symptoms which go to make up an attack of blackwater fever the following may be mentioned. Frequently there is severe headache, also pain in the loins and limbs. Patients often complain of numbness of the extremities. Usually there is also pain in the liver and spleen; both these organs are often enlarged. Constipation is usual at the outset of the complaint, but later there is danger of severe diarrhœa, especially if too active purgation has been employed; when this occurs it will, of course, increase the patient's exhaustion and cause special symptoms of its own, such as colic, straining, and smarting of the anus. In one of my cases the motions were frequent and towards the end they became reddish in colour—due, I take it, to hæmorrhage in the bowel; melæna is said occasionally to have occurred. Often there are oppression at the chest, sighing and shallow breathing, due, I think, to the patient's anæmia. The persistent vomiting at times causes severe gastralgia and general discomfort, and to it, no doubt, is due the excessive thirst which is so frequent. Finally, in many of the worst cases, continuous hiccough is present.

(To be continued.)

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[15] William Sidney Thayer: Lectures on the Malarial Fevers, 1898, p. 176.

[16] Allbutt's System of Medicine, vol. ii., p. 747.

[17] Bérenger-Féraud: De la Fièvre bilieuse mélanurique des Pays chauds comparée avec la Fièvre jaune; étude clinique faite au Sénégal, 1874, p. 118.

[18] Medical Times, August 29th, 1885, p. 277.

[19] Notes on the Malarial Fevers met with on the River Niger, p. 24.

[20] Bérenger-Féraud: loc. cit., p. 123.

[21] Guy's Hospital Gazette, 1897.

VACCINATION PROSECUTIONS.—At the meeting of the Chipping Sodbury Guardians held on March 17th a resolution was read from the parish meeting recently held at Frampton Cotterell protesting against the vaccination officer instituting prosecutions without the consent of the guardians. On the proposition of the chairman (Sir Gerald Codrington) it was decided to send an answer stating "that the consent of the guardians is not required before proceedings are taken by the vaccination officer."

A CONTRIBUTION TO THE STUDY OF APHASIA.

A CASE IN WHICH COMPLETE DESTRUCTION OF BROCA'S CONVOLUTION BY A NEOPLASM IN A RIGHT-HANDED PERSON PRODUCED NO APHASIA.

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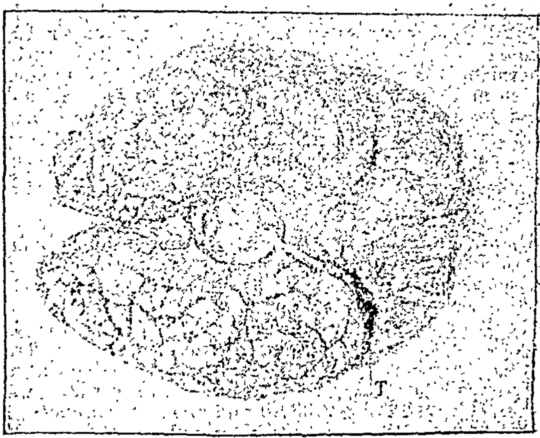
The following case is of great interest as it exemplifies the activity of the glosso-kinæsthetic centre in the right rather than the left third frontal convolution in a right-handed person. I am indebted to Dr. Bastian for permission to publish the notes of this case and to Dr. Risien Russell for the pathological report.

A woman, aged 23 years, unmarried, was admitted on May 23rd, 1897, to the National Hospital for the Paralysed and Epileptic as an out-patient under the care of Dr. James Taylor. There was no family history of fits or nervous disease; her mother had died from cancer. Her previous health had always been good, with the exception of an attack of pleurisy three years before her admission to the hospital. There was no history of infantile convulsions and she had never had any trouble with her speech. She was right-handed and wrote with her right hand, and she was skilful in playing the mandoline. No members of the family had been known to be left-handed. The history of the patient's illness was as follows. In May, 1896, when she was walking out with her sister she suddenly fell down and was unconscious for a few minutes. There was no warning of the attack. Her face was pale but she was not convulsed, nor did she bite her tongue or pass urine during the fit. During the next fortnight she had two fits of a similar nature, but in the second fit the teeth were clenched and she was slightly convulsed all over and foamed at the mouth. Since that time she had no more fits, but she had frequent sudden attacks of giddiness, pallor, and faintness. No speech defect was noticed after any of these attacks. On examination Dr. Taylor found no signs of organic disease. The patient was treated with bromides and the attacks of giddiness became much less frequent. She regularly came to the out-patient department for the next 18 months, during which time her health was good and she continued her work. During the month of October, 1898, she was noticed to be a little dull mentally and she complained sometimes of slight headache. On Nov. 8th she was noticed by her sister to mumble in her speech and to use wrong words for the period of half an hour. For instance, she called the fire register in her bedroom the "directory" and spoke of the incandescent gaslight as the "metropolitan gaslight." This affection of speech completely passed off in half an hour and was not again noticed. On Nov. 12th she went to a theatre apparently in excellent health and on returning home she entertained her family by singing and playing the mandoline. The next morning she was noticed to be very heavy and somnolent, but she did not complain. This somnolence deepened and she was admitted into the National Hospital for the Paralysed and Epileptic as an in-patient on Nov. 14th and was placed under the care of Dr. Bastian.

On examination the patient was found to be a well-nourished, healthy-looking, rosy-faced girl. She was evidently very ill physically and she lay in bed in a semi-comatose state and never moved a muscle unless roused. Her breath was offensive and her tongue was furred. When she was roused she kept on saying "Oh dear" in a sighing voice. She obeyed simple orders and answered simple questions if they were repeated several times. During the examination she said spontoneously, "Why can't you leave me alone? Let me go to sleep, I'm all right." There was no word-blindness and she could write her name, but required continuous exhortation during the process. She could only be induced to take liquid food with great difficulty. There was no hemianopia. The optic discs showed recent optic neuritis and the surface of either disc was seen with a + 3 dioptre lens. There was complete palsy of the right sixth nerve and nearly complete palsy of the left sixth nerve. The left lower face did not move quite so well as the right. Motion and sensation in the trunk and limbs were natural. There was neither headache nor cranial tenderness. The knee-jerks were not exaggerated, the left being rather the more easily obtained of the two. The wrist and elbow jerks were brisk and equal. The plantar reflexes showed a flexor response on either side. Examination of the thorax and abdomen showed no abnormalities. After her admission into the hospital the stupor gradually deepened and the breathing became stertorous. The temperature ranged between 100° and 102° F. She died from respiratory failure seven days after admission without the manifestation of any further physical signs. A pathological examination was made by Dr. Risien Russell.

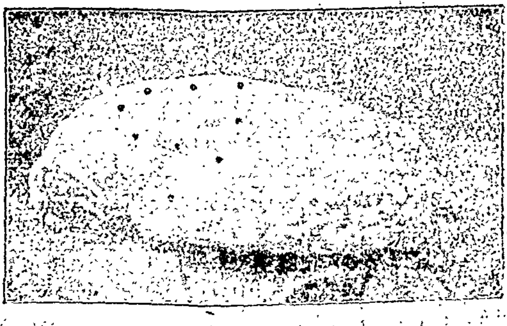
The necropsy was performed 12 hours after death. On removing the brain the dura mater was found adherent to the anterior part of the left temporo-sphenoidal lobe over an area of the size of a threepenny-piece. The leptomeninges at the base of the brain showed considerable old patchy thickening. There was slight recent meningitis over the posterior extremities of the second and third left frontal convolutions, and over the anterior part of the left temporo-sphenoidal lobe. The cortex of the posterior end of the third frontal convolution, including that part between the ascending and posterior limbs of the Sylvian fissure and the contiguous part of the left temporo-sphenoidal lobe, presented a grey jelly-like aspect suggesting the presence of a glioma in that region. To the touch this part of the cortex was elastic and yielding, suggesting the presence of a cystic condition. The inferior aspect of the brain showed a growth filling up the left Sylvian fissure and growing from the posterior part of the orbital lobule. Its projecting part was semilunar in shape, about an inch in its transverse extent and a third of an inch in its antero-posterior extent. The anterior border of the growth was parallel to the anterior border of the left temporo-sphenoidal lobe and it extended in the Sylvian fissure from close outside the outer root of the left olfactory tract to the bifurcation of the Sylvian fissure. Figs. 1, 2, and 3 show the position of the growth upon the surface of the brain.

Fig. 1.



Inferior aspect of the brain, the cerebellum and pons having been removed. (The distortion of the right occipital lobe was the result of pressure during the process of hardening. T. Tumour projecting in Sylvian fissure.)

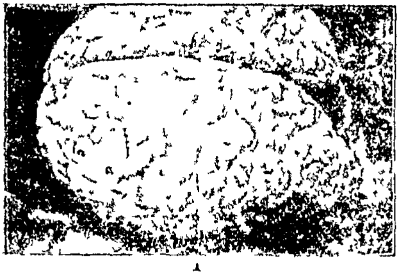
Fig. 2.



Lateral aspect of the left hemisphere. The surface-extent of the growth has been indicated by black-headed pins.

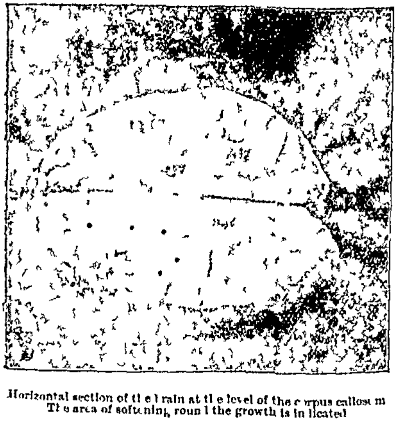
The brain was hardened in formalin and subsequently two horizontal sections were made, one at the level of the corpus callosum and the other at the level of the upper border of the anterior commissure. The growth was found to involve the inferior margin of the left second frontal convolution at about its middle, the whole posterior part of the left third frontal convolution, the posterior part of the orbital lobule, and to a small extent the anterior gyrus of the island of Reil. It crossed the posterior limb of the Sylvian fissure about a centimetre from its commencement and involved the anterior part of the first left temporo-sphenoidal convolution. The measurement of the growth in its maximum vertical extent was five centimetres; in its coronal extent it was 3·7 centimetres, and in its sagittal extent it was three centimetres. The ascending frontal convolution was not involved. The right third frontal convolution and the right hemisphere appeared perfectly healthy. The growth presented a gelatinous semi-transparent appearance on section, and there were several small cysts with clear jelly-like contents of from two to four millimetres in diameter in its upper part. There were several hard white nodules in the growth, the largest being of the size of a pea. For some distance round the growth the white matter of the centrum ovale was much softer than elsewhere. The extent of this condition is shown in Fig. 4. The other organs of the body presented a normal appearance. On microscopical examination the growth was found to consist of small round-celled tissue, the cells being densely aggregated around the blood-vessels, which were greatly thickened. Throughout the tissue were numerous large cells which stained very faintly. Several large patches of substance presenting a caseous appearance and which did not stain were seen in each section and corresponded with the hard nodules seen with the naked eye. The appearances suggested a long-standing and slowly-growing neoplasm.

FIG. 3.



The left hemisphere seen from the side and above. The position of the growth is indicated by black-headed pins. A, Fissure of Rolando.

FIG. 4.



Horizontal section of the brain at the level of the corpus callosum. The area of softening round the growth is indicated.

So far as I am aware no case of the same kind as this one has been previously recorded. It proves the possibility of *the fortuitous major activity of the glosso-kinæsthetic centre* in the right third frontal convolution in a right-handed person. It also shows *that right-handedness does not* necessarily involve the major activity of the third left *frontal convolution for the production of articulate speech.*

It has been suggested by Byrom Bramwell[1] that in some *right-handed persons whose ancestors were left-handed* the glosso-kinæsthetic centre may possibly be situated in the right hemisphere. *I obtained in this case a most complete* account of the family history and there was no instance of left-handedness *in the family.* The presence of a pathological condition in the usual position of the glosso-kinæsthetic centre (the *left* third frontal convolution), together with a completely functioning glosso-kinæsthetic centre in another part of the brain (the right third frontal convolution), strongly suggests a causal relationship between the two. It may be argued that in this patient in early life the left third frontal convolution was the seat of some developmental or acquired defect which caused the right third frontal convolution to take up the speech function when that was learnt and which predisposed to the occurrence of the new growth, but there was no pathological evidence in support of this view. Such a lesion in early life would in all probability have caused some atrophy of the affected cortex and asymmetry of the convolutions and in this case the convolutions were quite symmetrical upon the right and left sides. Nor was there any evidence of any trouble with the speech function in early life. She had begun to talk at the age of 18 months and had learnt to talk quickly and well. It is inconceivable that the glosso-kinæsthetic function could have been taken up by the right third frontal convolution *pari passu* with the devolution of the left third frontal convolution owing to the presence of a slowly growing neoplasm without some speech defect being at any time noticeable. The history of the patient both previously to and during her illness was obtained in the greatest detail from those who were constantly with her and no speech defect had been noticed. The facts of the case suggest that the unusual location of the leading or active glosso-kinæsthetic centre and the presence of a neoplasm in the left third frontal convolution were simply coincident and that the right third frontal convolution had in this patient always performed the function of a glosso-kinæsthetic centre.

Left-handedness does not always transfer the leading speech centres to the right side of the brain, as exemplified in Dickinson's[2] case and Wadham's[3] case, and notwithstanding *the immense influence of heredity* right-handedness may in rare cases be associated with leading speech centres in the right hemisphere, as I think this case proves. Bastian[4] has suggested that a similar location of the glosso-kinæsthetic centre may have been present in Barlow's[5] case, in which after an attack of right hemiplegia and aphasia the power of speech returned on the tenth day and the patient had apparently recovered from his symptoms in a month. A second attack three months later of left brachio-facial monoplegia deprived him entirely of his speech. Symmetrical lesions of about the size of a shilling were found in each hemisphere involving the posterior end of the third frontal convolutions. In a case recorded recently by Byrom Bramwell[6] a similar explanation would accord very well with the facts of the case. In discussing his case he inclines to a different explanation. Thus he suggests "that in very rare instances, of which the present case is an illustration, the functional activity and educational endowment of the right third frontal convolution are so perfect that the speech function can be immediately taken up when the left motor vocal speech centre is acutely and completely destroyed." My suggestion, is only one step farther than this and renders the explanation of the case less difficult. I would suggest that the transient speech defects in these two cases were of the same nature as are the speech defects sometimes seen in cases of left hemiplegia in right-handed persons.

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[1] Lectures on Aphasia, Edinburgh Medical Journal, 1897, vol. ii.

[2] Bastian: Aphasia and other Speech Defects, 1893, p. 90.

[3] St. George's Hospital Reports, 1868, vol. iii., p. 245.

[4] Loc. cit., p. 322.

[5] Brit. Med. Jour., July 28th, 1877.

[6] Brain, 1893, p. 343.

The incompleteness of the notes upon speech defect in this case is due to the fact that it did not present itself as a case of aphasia. The handwriting was tested, as it is a routine practice in the National Hospital for the Paralysed and Epileptic for each patient to write his name in the notes. Word vision was tested in the routine examination of eyes presenting optic neuritis.

A PRELIMINARY NOTE UPON CERTAIN ORGANISMS ISOLATED FROM CANCER AND THEIR PATHOGENIC EFFECTS UPON ANIMALS.[1]

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DURING the past six years I have been studying the cell-inclusions which are found in cancer and their relation both to the origin and course of the disease, and for this work I have had to examine 1278 cancers taken from various organs and parts and of all possible varieties. Out of this large number of cases there have been a few—nine in all—in which the cell-inclusions have been extremely numerous, so that at the growing edge, and even far into the tumour, scarcely a cell could be found without an inclusion, sometimes with as many as 36 even of these inclusions in one cell, and these bodies have been similar to those which Metchnikoff, Ruffer, and others, as well as myself, have regarded and described as parasites standing in causal relationship to the disease. In two out of the nine cases mentioned these bodies have been present in enormous numbers, and I have succeeded in isolating from the last of these remarkable cases an organism which is pathogenic in a peculiar manner to certain animals and whose virulence I have been able to keep unimpaired for some months.

PREVIOUS WORK ON THE EXPERIMENTAL PRODUCTION OF TUMOURS IN ANIMALS.

The only work, I think, that needs mention here in connexion with this heading is that of Sanfelice in Cagliari and of Roncali in Rome. Sanfelice has produced tumours in animals with organisms which he isolated from infusions of various fruits, and they both have isolated organisms from cancers, which I believe from their descriptions—I have not seen their cultures—are morphologically somewhat similar to those I am about to bring before you. But Sanfelice's organism appears to have been very difficult to isolate in a virulent form from human cancer and to keep virulent, so that in his last paper[2] he treats only of the organisms derived from fruit infusions and of their effects upon animals. Most of the statements are doubted by the German pathologists, including such a good observer as Baumgarten, but from my own experience I do not find any reason to doubt any of Sanfelice's statements, and I think that he deserves the greatest credit for removing the study of the etiology of cancer from the histological to the experimental region of work.

ON THE METHOD OF ISOLATION ADOPTED.

The cancer from which the organisms I am about to describe were isolated and with which my experiments have been made was taken from the breast of a woman, aged 35 years; it had a history of only two months' duration and it was growing rapidly at the time of the operation. Immediately after removal I examined a fresh scraping and finding such an extraordinary number of the bodies I have mentioned in the cells I cut, with all possible precautions against contamination, with a carefully sterilised knife, very thin slices from the growth which I placed with a little of the juice scraped from the cut surface in a flask containing the following liquid, which was of course carefully sterilised. This medium consisted of an infusion made from cancer, just as the ordinary beef infusion is made, to which was added, after careful neutralisation, 2 per cent. of glucose and 1 per cent. of tartaric acid. This medium was the outcome of many trials with all kinds of mixtures and I tried it in this case as I had already got similar organisms to grow in it from two previous cases but they had no pathogenic properties, and this, I think, was due to the omission of the next step. This medium, too, is particularly useful, as hardly any bacteria, however hardy, will grow upon it. Then, remembering that in the body these organisms were under anaerobic conditions, I exhausted the air from my flasks and passed hydrogen into them and finally sealed them up. This I have found is of great importance as regards the maintenance of the virulence, and I find consequently that there is no falling off in the virulence of my cultures which are as active now as they were four months ago. Five flasks were made in this way, but in spite of precautions two became contaminated with moulds; in the other three, however, I got after from three to five days a pure culture of the organism described below has been kept growing in this and various other media ever since.

MORPHOLOGY AND RELATION TO MEDIA.

The organism is apparently a saccharomyces, but I am informed that, according to some authorities, such as De Bary, Cuboni, and Duclaux, the saccharomycetes are nothing but the developmental stages of fungi which really belong to either the phycomycetes, the ascomycetes, or the basidiomycetes. Moreover, they state that in some species of mycelium-forming fungi, single parts, especially conidia, can grow in the saccharomyces form on certain nutrient media, so I will not attempt to locate this organism at present. Sanfelice and Roncali, however, definitely state that the organisms they have isolated are blastomycetes.

When grown in the medium described these organisms produce a cloudiness which becomes visible in about 48 hours and increases till about the sixth day, when the growth sinks to the bottom, the medium then becoming clear; no scum or pellicle is formed. When grown on this medium solidified with agar the organisms form small round colonies which remain separate. After some weeks the colour, which was originally white, becomes yellow. The colonies do not attain at any time a great size.[3] Gelatin is not liquefied, but the growth on this medium is never luxuriant. On potato a thick white layer is formed which in about two weeks will cover the entire surface, changing then to a yellowish-brown colour. They will grow aerobically, but not so well, at any rate at first, and they lose their virulence in a short time if continuously grown in this way. Microscopically they are round bodies, frequently growing in clumps, with a central portion which stains deeply, and in most cases with a thin, strongly refractile capsule which sometimes shows a double contour; but some young forms can be seen which are apparently without a capsule. The size varies from 0·004 millimetre to 0·04 millimetre. Their reproduction appears to be by budding, but I have fancied that I have also seen in a few instances endogenous budding; of this, however, I am not certain. These bodies correspond morphologically with those found in the original tumour and also with those described by Ruffer and myself and by some others of those who have worked at the microscopical appearances of cancer.

EXPERIMENTAL RESULTS.

I have selected from the experimental work which I have done with these organisms those experiments which seemed to me to be the most important. Up to the present time I have not been able to make any such experiments upon such animals as would allow of the easy bringing of these organisms into contact with a likely epithelial surface with the exception of the cornea (*vide* Experiment No. 4), but through the kindness of Dr. Rose Bradford I have been enabled now, at the Brown Institution, to inoculate a bitch in the mammæ, but the time is as yet too short to enable me to make any statement as to the result. The cultures used in the following experiments were made in the medium previously described.

1. *Rabbit.*—Intravenous injection of five cubic centimetres of an eight days old culture. There was no obvious result.

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[1] A paper read before the Royal Society on March 9th, 1899; communicated by Professor J. Rose Bradford, F.R.S.

[2] Zeitschrift für Hygiene, 189

[3] The following specimens were shown: (1) sections of the cancer from which the cultures were made; (2) the cultures on various media; (3) preparations of the cultures; (4) sections of the organs of the animals in which tumours had been produced; and (5) animals, or portions of them, in which tumours had been produced.

The rabbit was killed 13 weeks afterwards and was found to be apparently normal.

2. *Rabbit.*—Intraperitoneal injection of 10 cubic centimetres of a 21-days old culture. There was no obvious result. The rabbit was killed eight weeks afterwards and was found to be apparently normal.

3 *Rabbit.*—Subcutaneous injection of five cubic centimetres of a three days old culture. There was no obvious result. This rabbit was used later for Experiment No. 4, and when killed 14 weeks after Experiment No. 3 it was found to be normal; nothing was found at the seat of injection.

4. *Rabbit.*—Both cornea were scraped and the sediment of a 10 days old culture rubbed over them. The rabbit was killed in 48 hours. There was considerable proliferation of the corneal epithelium which had forced its way into the subjacent tissue. The organisms were found in the epithelial cells after fixing and staining, with appearances similar to those of the inclusions in cancer cells as described by Ruffer and myself.

5. *Rabbit.*—Trephined and inoculated beneath the dura mater with five cubic centimetres of a seven days old culture. The rabbit died in nine and a half days; the wound had healed. The brain and cord contained the organisms in large numbers. Pure cultures were obtained from the brain, the liver, and the kidney. Nothing was obtained from the blood, the spleen, or the peritoneal fluid.

6. *Rabbit.*—Trephined and inoculated beneath the dura mater with five cubic centimetres of a three days old culture made from the brain of No. 5. The rabbit died in eight days; the wound had healed. Organisms were found in the heart, the blood, the brain, and the cord. Pure cultures were made from the brain, the cord, the kidney, and the liver.

7. *Guinea-pig.*—Subcutaneous injection of five cubic centimetres of a 10 days old culture. There was no obvious result. The guinea-pig was killed in 15 days and was found to be apparently normal; nothing was found at the seat of injection.

8. *Guinea-pig.* — Intraperitoneal injection of 10 cubic centimetres of a three weeks old culture. The guinea-pig died in 20 days. The liver, the lungs, and the peritoneum were studded with new growths of a white colour; the lymphatic glands in the abdomen were enlarged. Pure cultures were made from the liver, the lungs, and the abdominal glands; nothing was obtained from the blood. Sections of the above-mentioned parts showed new growths of an endothelial nature, with the organisms within the cells and free in the tissues.

9. *Guinea-pig.* — Intraperitoneal injection of 10 cubic centimetres of an eight days old culture, made from the abdominal glands of No. 8. The guinea-pig died in 17½ days and showed the same appearances as No. 8. Cultures were made as before and also from the blood. In this case the omentum was also studded with new growths.

I have given here some of the failures and successes which have been constant, and I should like to add that Professor Wright of Netley has repeated some of the experiments I have made and that his results coincide with mine.

The important point, of course, of all this is—the experimental production of malignant tumours in animals by an organism isolated from a malignant tumour in man. That these experimental tumours are, so far with one exception of endothelial origin is due to the fact that until I was enabled to inoculate a dog I found it very difficult to get the organism in contact with likely epithelium; all the above methods of inoculation, save one, could only bring them into contact with endothelial surfaces. No. 4 (the corneal experiment) is the only one in which an epithelial surface was tried and in this case the great proliferation of the epithelium, the appearances of the organisms in the cells, and the irritation produced, were very striking. But the fact of being able to excite a malignant growth with an organism isolated from cancer is, I think, a point of some importance in the etiology of cancer. I am at present experimenting with the view of observing the effects produced by these organisms when brought into contact with epithelia.

The deductions which I think may fairly be made from these observations and experiments are as follows:—

1. That there are certain cancers which occur very rarely in which there are in enormous numbers intracellular bodies of the kind described by Ruffer, by myself, and by others as parasitic protozoa. (From the rarity of these cases and their comparatively acute course one is tempted to think that they are not due to the same cause as ordinary cancers, but there is really no more difference between them and ordinary cancers than between acute and chronic tubercle.)

2. That by the use of appropriate means these intracellular bodies can be isolated and cultivated outside the body.

3. That these cultures when introduced into certain animals can cause death with the production of tumours, so far with one exception of endothelial origin, and that pure cultures can be made from these growths which when inoculated into suitable animals will produce similar tumours.

St. John's Wood-road, N.W.

A CASE OF

TUBAL GESTATION WITH RUPTURE AND FATAL HÆMORRHAGE AT A VERY EARLY PERIOD OF PREGNANCY.

BY F. LUCAS BENHAM, M.D., M.R.C.P. LOND.

THE following case I believe to be sufficiently uncommon to be worthy of record.

The patient was a woman, aged 23 years, who had been married for three and a half months and had never borne a child. She was said to have formerly drunk somewhat to excess and latterly she had suffered from indigestion. Otherwise her health and habits had been generally good. Menstruation had always been regular. Since her marriage (at the end of April, 1898) she had missed two periods—May and June. The July period was profuse, lasted for three weeks, and was followed after an interval of one week by the next period (early in August) which appeared to be normal and which ceased on August 12th, two days before the present illness. On August 14th, 1898, I was asked to see the patient in the temporary absence of Dr. O. A. Crane (who had not previously seen her, however). She was said to be suffering from abdominal pain. I visited her at about 2 P.M. and found her lying in bed. She said that she had not felt well that morning and that on trying to get up she did not feel able to do so. At 10 A.M. severe abdominal pain came on. She admitted having eaten some pork sausages and ice-cream the day before. There was no nausea, vomiting, or diarrhœa. The bowels had been last moved naturally on the previous morning and were regular. The tongue was clean and moist. The skin was very pale and distinctly cool, but the patient had naturally a white or somewhat sallow complexion associated with black hair, so that she had often been supposed by strangers to be Italian. There was, however, no marked pallor of the lips. The pulse was weak and compressible. She was perfectly conscious, not collapsed, could move about readily in bed, and did not seem dangerously ill. I examined the abdomen carefully. There was no distension or abnormal note on percussion and the knees were not drawn up. There was diffused pain over the abdomen, especially over the lower part, and it seemed somewhat greater on the right side than elsewhere; there was slight general tenderness. No tumour was to be felt. The patient confidently denied pregnancy. No vaginal examination was made. The treatment ordered was half an ounce of castor oil to be taken at once, to be followed by one or two draughts containing opium and belladonna. Hot fomentations were to be applied to the abdomen and milk and soda water or arrowroot were to be taken as food. At about 11 P.M. the patient's husband called to tell me that his wife was no better, that the pain was very great, and that she wanted relief and sleep. Two doses of castor oil had been given without any action of the bowels. I went again to the house and found the patient very much worse—in fact, dying. She was extremely pale, with pinched face and staring eyes, and she was gasping for breath. She complained of pain all over the chest and abdomen, that her head was light and swimming, and that she could not get her breath. The skin was cold, except over the abdomen where fomentations had been applied. The abdomen was much distended and dull in the flanks. The patient had passed no urine and had been slightly sick at times. The heart could be felt beating and was rapid, the respiration also was hurried, and the radial pulse was imperceptible. I saw that she could only live half an hour late to do anything, so I merely gave a small hypodermic injection of morphia. Death occurred at midnight.

At the post-mortem examination made 15 hours after death the body was found to be well nourished. The skin was pale, there was not much hypostatic congestion, and there were no lineæ albicantes. Rigor mortis was well marked in all the limbs. Froth issued from the nostrils. The face was pale and bloated. There was a thick layer of subcutaneous fat. On making the usual incisions dark fluid blood ran in a stream from the peritoneal cavity. About three or four pints were sponged up and removed and a good deal of black tenacious clot was taken in fragments from the pelvis, though at present nothing visibly wrong was observed. The heart was healthy but pale. The cavities were empty except for a very little clot in the right ventricle. There was a little emphysema in the lungs and the lower lobes were œdematous; otherwise they were normal. Examination of the abdomen revealed no peritonitis and no tumour or aneurysm could be discovered. The stomach was dilated and it contained several ounces of fluid food. The intestines were normal. The liver was of average size, pale and bloodless, and rather fatty. The spleen and pancreas were normal. The kidneys were of normal size and structure. After removing all the viscera and the remaining adherent blood-clots the uterus and its appendages were carefully examined. A lesion was then observed in the left Fallopian tube. About two inches from the uterus was a small, smooth, elongated swelling about three-quarters of an inch in length and of the size and shape of a small bean; in one spot on its upper surface it was rough, soft, and red, and blood exuded on gentle pressure. This was seen to be the chorion of a very early pregnancy exposed by rupture of the containing Fallopian tube. The ovum seemed partially moveable in the stretched tube and could be rolled about in it. There were no adhesions or any traces of former peritonitis or of any other disease about the Fallopian tube, except one or two very small cysts in the fimbriæ. The uterus was a very little enlarged and was lined by a thin, reddish, adherent membrane (decidua?). The substance of the uterus was normal. Each ovary was enlarged, about two inches in length, and full of cysts as big as peas. In the left ovary was a recent corpus luteum about one-third of an inch in diameter, with a corrugated yellow capsule and a red interior.

Remarks.—The points of interest about the case are as follows:—

1. It is uncommon for extra-uterine gestation to occur in a nullipara as in this case.

2. The chief feature of the case is the early period at which fatal hæmorrhage from rupture of the tube took place. It would be interesting to determine the precise age of the ovum. From the history above given it would appear probable that the woman conceived shortly after marriage and that this ended in an early miscarriage in July. It could not, however, have been this pregnancy, even if no actual abortion had taken place, which led to the final disaster, for an ovum must be still alive and growing to cause rupture of the containing tube and if that had been the case the ovum would have attained a much larger size. Probably another conception took place, dating soon after the catamenia ceased about the end of July or between that and the next menstrual period, which began about August 5th or 6th. At any rate, from the history the duration of the pregnancy at the time of death would appear to be between 10 and 20 days. Mr. T. W. P. Lawrence, the curator of University College Museum, has made a minute examination of the specimen and he reports that from the size of the chorionic vesicle and the development of its villi, which were of considerable length and decidedly branched, the age of the ovum must have been very nearly three weeks, so that conception must have taken place not much later than July 24th, when the protracted menstruation had hardly ceased. Mr. Lawrence's measurement of the distended part of the Fallopian tube is 20 millimetres, the size of the chorionic vesicle from 15 to 20 millimetres. These measurements probably indicate the extreme length and not the diameter of a sphere. But even allowing fully three weeks for the duration of pregnancy, it is very rare (and perhaps unique) for rupture with fatal hæmorrhage to take place as early as this. I have searched through many text-books and voluminous indices but have been unable to find another instance on record. Early rupture is of course not very uncommon but the hæmorrhage is usually slight and only amounts to a hæmatocele and is practically never fatal. I need not quote all the opinions stated in the books about the period at which fatal rupture occurs. I will only mention one or two as examples. Thus Barnes, in his work on Diseases of Women, says that rupture occurs the more early the nearer the gestation sac is to the uterus. Thus an interstitial or tubal gestation usually ruptures from the sixth to the twelfth week though it may be postponed much longer. Six to eight weeks is the time given by most authors. Mr. J. B. Sutton, in his elaborate article on Extra-uterine Gestation in Allbutt and Playfair's "System of Gynæcology," says that primary rupture takes place in the majority of cases between the third week and the tenth week, but he does not say that *fatal* hæmorrhage may take place till after the first month.

3. The most interesting aspect of the case is the clinical one of diagnosis. I think that the difficulties in this case made certainty, when I saw it, out of the question. There was no physical, symptomatic, or historical evidence of pregnancy; the facts were all against it and I therefore excluded the possibility of this being the cause.

The case most nearly resembling mine in this respect that I have found reported is one by Dr. Burton in the Transactions of the Obstetrical Society of London, Feb. 3rd, 1881. In that case fatal hæmorrhage occurred in a woman who was still suckling a child seven months old and who had just menstruated again. The ovum was of the size of a Barcelona nut and was said to be of six weeks' duration. At the time I saw my patient first there was no indication of abundant hæmorrhage, there was no shock or collapse, there was no marked pallor of the lips, and there was no accumulation of blood in the peritoneum. There were, however, two points which I distinctly noticed—viz., coldness of the surface, and a peculiar, weak, compressible pulse. I find that I noted the same phenomena in another case of the kind which I met with several years ago. I suppose they denote hæmorrhage and I might perhaps have attached more importance to these symptoms, but, as I have already said, further evidence of hæmorrhage was wanting. The absence of uterine hæmorrhage was evidence against abortion in case pregnancy existed. I excluded peritonitis, rupture of the stomach, intestinal obstruction, and acute pancreatitis from the diagnosis and was forced to assume, at any rate provisionally, the presence of a bad attack of simple colic. When I saw her at the end the existence of intra-peritoneal hæmorrhage was plain, but she was then dying, and it is doubtful whether transfusion or intravenous injection of saline fluid preparatory to laparotomy would have saved her even if the means of carrying out the process had been at hand, which was certainly not the case.

Elizabeth-street, S.W.

A CASE OF CHEYNE-STOKES RESPIRATION WITH OTHER RHYTHMICAL PHENOMENA.

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THE patient in this case, a child aged four years, was admitted to the Glasgow Royal Infirmary on Sept. 19th, 1898, in an unconscious condition, evidently the subject of some form of cerebral meningitis. The history obtained from the parents was to the effect that their child had been quite well till the month of March—i.e., six months before—when she contracted measles, and since when she had been ailing more or less constantly. During the summer the patient was in regular attendance at the outdoor department of the Children's Hospital where I saw her on several occasions and where she was diagnosed as having "some pulmonary trouble, probably tuberculous." Later a persistent diarrhœa set in and it was with difficulty that this could be controlled by means of drugs. A strabismus had been noticeable ever since the attack of measles but not before. The meningeal symptoms were first observed about the beginning of September, commencing with pain in the head and followed later by vomiting, listlessness, and drowsiness. From Sept. 15th the head had been much retracted and coma more or less complete was constantly present. On admission to hospital the child was quite unconscious though the swallowing reflex was still present The pupils were unequal the left being dilated and the right medium Ophthalmoscopic examination revealed a double optic atrophy but no tubercles were to be seen anywhere in the fundus The head was retracted and the abdomen was slightly retracted but was quite soft and doughy to the touch Tache cérébrale was well marked The temperature was 98° F, the pulse was 133 and the respirations were 25 During the first few hours after admission twitching *movements were at intervals noted* in the right arm and leg, also more extensive *movements in* both arms and legs The *respirations all this time were* sighing in character but after midnight the breathing assumed the Cheyne Stokes character the respiratory cycle lasting 50 seconds and consisting of 80 separate respiratory movements The pupils likewise showed rhythmical *movements* *During* the pause they became contracted while with the respiratory movements they began to dilate till at the acme of respiration they were widely dilated While thus dilated the pupils reacted slightly to light Rhythmical movements corresponding in time to the above were also observed in the arms, especially in the right arm The arms it is to be noted were at this time more or less rigid and they presented slight tremor They were extended, with the thumbs adducted and the fingers flexed at the inter phalangeal joints During the advent of the Cheyne Stokes respiration, then, this tremor exhibited a rhythmical activity of such a nature *that during* the pause the tremor was scarcely perceptible increasing however, with the breathing till at the height of the respiratory cycle the tremor presented movements of considerable amplitude As the respiratory movements lessened so did the extent of the tremor movement These various rhythmical phenomena were observed at *frequent* intervals until the time of death, about 30 hours after admission into hospital

On post-mortem examination the convolutions of the brain were found to be much flattened and the soft membranes and ventricles contained a large quantity of *clear serous fluid* Numerous tubercles were to be found scattered throughout the soft membranes The brain substance generally was very soft but otherwise it presented no abnormal appearances Both lungs were studded with miliary tubercles of comparatively large size and there was extensive tuberculous consolidation and excavation of the upper lobe *of the* right lung The right bronchial glands were enlarged and caseous, but the left seemed healthy Miliary *tubercles* were to be seen in the liver, spleen and kidneys and some small and evidently recent tuberculous ulcers were found in the colon and ileum The mesenteric glands *seemed healthy* The medulla and pons were fixed in *formol* and stained with thionin according to Nissl s *method* *Numerous* sections were examined at different levels special attention being paid to the sections passing through the alæ cinereæ In none of the sections, however, could *any distinctive* change be found in the ganglion cells of *either the tenth* the twelfth or of any of the other nerve nuclei *Many* of the ganglion cells I found to be quite normal *Some showed* what has been termed a "polar' or "apical chromatolysis and some were very faintly stained like *to the so called* "ghost cells' But these changes were *seen throughout* the whole medulla and pons not confined *to any special level or* nucleus and I take it that they were due to the meningitis or the *high* temperature (the temperature reached 107 6° before death) and not to be specially *associated with* the Cheyne Stokes respiration

That then very briefly is the record of this case and it would seem to be of some interest in that (1) careful microscopic examination of sections of the medulla through the alæ cinereæ—the supposed rhythmical *respiratory centre*—showed no distinctive change at least not *more than* in the rest of the medulla and pons, and (2) in that *rhythmical* movements were also present in the arms, *showing* the extent of the affection Some time ago Dr Terrien[1] reported a case of Cheyne Stokes respiration where *not only* was there a rhythmical movement of the *pupils* but *also* a rhythmical anæsthesia of the parts of the *face supplied* by the fifth nerve During the pause this anæsthesia was present passing off again as soon as the respiration began In explanation of this Dr Terrien points *out that the* cilio spinal centre and the sensory nucleus of the *fifth nerve* lie close to the respiratory centre and that whatever was causing the Cheyne Stokes breathing had evidently extended its influence to these adjacent centres In my case tactile sense *over the area of the fifth* nerve could not be tested as the child was unconscious all the time the Cheyne Stokes breathing was present But to it Dr Terrien's explanation would not seem to be applicable, for the arm centres are certainly in no way adjacent to those of the pupil and *respiration* My case seems rather to favour the view advanced by Dr G A Gibson[2] that Cheyne Stokes breathing and its accompanying rhythmical phenomena "are instances, among many others of the common tendency towards 'pulsatile or rhythmic activity' manifested by all living *matter'*

Glasgow

THE DIASTOLIC MURMUR OF MITRAL STENOSIS

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IT is generally recognised that, as stated by Bristowe[1] the murmur of mitral stenosis may be early, middle, or late diastolic, but the clinical significance of the variation in time of these murmurs is practically unknown, and it was the attempt to discover wherein cases with the early and middle diastolic murmur differed from those with the more ordinary presystolic murmur which led me to examine a series of cases of mitral stenosis From clinical examination of a considerable number of cases I have arrived at the following conclusions in support of which I am unable to give figures, but they will probably be found to agree with the experience of most

1 The murmur in an early compensated case of mitral stenosis, such as is seen in the out patient room and often discovered only on routine examination, is always presystolic Early diastolic murmurs are practically never heard while compensation remains good

2 On the other hand when cardiac failure supervenes and the patient is troubled with dropsy, cyanosis, and other symptoms of mitral stenosis, the murmur is frequently heard in the first half of diastole although even now it is not so common as the presystolic murmur (A long diastolic murmur running right up to the thrust and increasing in loudness and roughness as it approaches the systole is included as a variety of the presystolic murmur)

3 A presystolic murmur may or may not be accompanied by a systolic bruit but an early diastolic murmur is almost always preceded by a systolic murmur A single, early diastolic murmur at the apex is very rare in mitral stenosis and strongly suggests aortic regurgitation even if no murmur is heard at the base

4 A presystolic murmur frequently changes into a diastolic murmur or *vice versâ* in a short time and the period of diastole occupied by the murmur may even vary in the erect and recumbent postures The difference in the cause of these murmurs is therefore not likely to be found in any structural condition of the affected valves, but rather in the way in which the heart is working at different times

I have examined the records of University College Hospital for the past few years in order to see if in the fatal cases of mitral stenosis any post mortem differences could be substantiated between the hearts of those in which during life the murmur was presystolic and those in which it was in the first part of the diastole Such cases are not easy to collect as it is frequently found in mitral stenosis that before death there may be no murmur or it may be confined to the systole so that unless the case is under observation for some time it may be useless for this purpose I have however collected 21 suitable cases of well marked mitral stenosis with necropsies

In 15 cases there was either during life a presystolic murmur or a very long murmur running up to the thrust In 12 of these the left ventricle was either small normal in size or slightly hypertrophied without dilatation, in two the left ventricle was slightly dilated, and in one patient who died, not from the cardiac condition but from septicæmia, it was considerably dilated. In six cases the murmur was in the first part of the diastole and in every one of these the left ventricle was found to be markedly dilated and usually also hypertrophied. So it seems that the early diastolic murmur is heard in those cases of mitral stenosis in which the left ventricle is dilated. Now, in mitral stenosis alone the left ventricle does not dilate; it may either become smaller, as it receives less blood, or it may become slightly hypertrophied, possibly to increase its suction power, as suggested by Giuffré.[2] If with mitral stenosis we find distinct left ventricular dilatation we may be sure, excluding other valvular or visceral disease, that during life there was considerable mitral regurgitation, in which condition dilatation is of course frequent. This great frequency of dilatation of the left ventricle in cases of mitral stenosis with early diastolic murmur, together with the clinical association of such murmurs with systolic bruits, and the fact that this murmur is only heard when compensation is failing, leads to the conclusion that the murmur in the first part of the diastole is only heard in cases of mitral stenosis in which there is free mitral regurgitation. The objection might be raised that with the rigid and useless valves of mitral stenosis there must be very frequently regurgitation and that the early diastolic murmur should be therefore more common. But there are frequently no signs during life or after death that regurgitation has taken place and, as suggested by Samways,[3] this may be due to hypertrophy of the left auricle which, until it gives way, prevents by its more forcible contraction any great mitral regurgitation. The rapid changes in the time of the murmur of stenosis may be due to alterations in tone of the muscle of the left auricle and auriculo-ventricular ring, allowing greater or less regurgitation.

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[1] Le Progrès Médical Jan 8th 1898

[2] Cheyne-Stokes Respiration (Edinburgh 1892)

[1] Proceedings of the Medical Society of London, 1888 p 41

Although there have been no suggestions as to the significance of the early diastolic as compared with the presystolic murmur, yet there are several explanations as to the mode in which it is produced. There is the view supported by Fagge[4] that it is caused by an increased duration of the auricular systole, so that it drives the blood through the narrowed orifice as soon as the ventricle dilates. Apart from the difficulty of conceiving such a cardiac rhythm on physiological grounds there is the obvious objection that such murmurs are very frequently heard with, but separated from, presystolic murmurs which would be most unlikely if they were both due to the auricular contraction. Balfour[5] ascribes this murmur to the high tension in the pulmonary system forcing blood through the narrow mitral orifice to fill the left ventricle as soon as it is emptied. If this were sufficient by itself to produce a bruit we should expect an early diastolic murmur in all advanced cases of mitral stenosis until the right side gives way, relieving the high pulmonary pressure, whereas such murmurs are only heard in a minority of cases. There is also the attractive theory put forward by Rolleston[6] and adopted by Gibson[7] and others that the early diastolic murmur is due to the negative pressure in the expanding left ventricle sucking blood through the constricted orifice. If the early diastolic murmur is associated with a dilated left ventricle, as appears from my analysis of post-mortem examinations, which unfortunately includes only a small number of cases, it can hardly be explained by this *vis a fronte*. For even if we suppose the wall of the left ventricle to remain of the same thickness and elasticity when the cavity is dilated there would be as a question of physics less negative pressure within it; and as the wall of a dilated ventricle is always softer and less elastic, this loss of negative pressure would be increased. Also, as shown by Roy and Adami,[8] a dilated heart does not thoroughly empty itself and this, again, would diminish its suction-power. So that if, as I have endeavoured to show, cases with early diastolic murmur have a dilated left ventricle the murmur cannot be explained by the negative intra-ventricular pressure, as this would be considerably less in such hearts than in those with a left ventricle of normal size. Another great objection to all these views is that they make no attempt to explain why the murmur should only occasionally be in the early part of the diastole, as such causes would be equally potent in all cases of stenosis. There is, lastly, the explanation put forward by Petit[9] that the diastolic murmur is only heard when the heart is beating slowly, as then the ventricular systole being more complete the left ventricle is better emptied, and there is therefore a more energetic flow of blood into the ventricle at the beginning of diastole, producing a murmur immediately after the second sound. This connexion between the early diastolic murmur and a slow strongly-beating heart is, however, quite disproved, as mentioned before, by clinical examination, the murmur being rather heard with a failing heart.

For these reasons it seems to me that the suggested causes of this murmur in the early half of the diastole are insufficient. If, as I suggest, this early diastolic murmur is always associated with free mitral regurgitation the explanation is simple. The ventricular systole drives a certain quantity of blood back through the constricted orifice into the already over-distended left auricle and pulmonary veins, and at the beginning of diastole these cavities by their elastic recoil drive some of the blood back through the narrowed mitral valve, thus producing the murmur.

This view of the dependence of the early diastolic murmur of mitral stenosis on co-existing regurgitation thus seems to be supported by some clinical and post-mortem evidence; it affords a simple solution of the mechanism of this rather obscure murmur and also explains why it is only heard in a certain number of cases of mitral stenosis.

Gower-street, W.C.

THE ACTION OF THE WATER OF LLANGAMMARCH WELLS ON URIC ACID.

By W. BLACK JONES, M.D., B.S. LOND., D.P.H.,
RESIDENT PHYSICIAN, LLANGAMMARCH WELLS SPA;

AND

EDWARD RUSSELL, B.Sc. LOND., F.C.S., F.I.C.,
SENIOR DEMONSTRATOR OF STATE MEDICINE, KING'S COLLEGE.

THE well-known efficacy of waters containing salts of the alkaline earths in the treatment of lithæmia has induced us to record the following observations on the water of Llangammarch Wells which contains the chlorides of barium and calcium in solution.

A man, aged 66 years, who had suffered for many years from symptoms of renal calculus, consulted one of us (Dr. W. Black Jones) in September, 1896. For the past 10 years he had been taking Contrexéville and Wildungen waters, but without relief. In 1895 he began taking the water of Llangammarch Wells, but in the following year was still suffering from the same symptoms. His urine was acid and the specific gravity was 1020. There was no albumin or sugar present, but he passed a large quantity of uric acid crystals. He suffered from obscure pains in the abdomen and had also well-marked signs of osteo-arthritis in the right knee and in the phalanges of the fingers. In May, 1897, he consulted Dr. Lauder Brunton who reported that all the symptoms of calculus had disappeared. Since then his urine has been free from deposit of uric acid, his rheumatism is much better, and his health is generally improved. He has continued to take a glass of Llangammarch Wells water daily.

The success of the above case induced one of us (Mr. Edward Russell) to make the following series of experiments upon himself. As a preliminary the alkalinity of the following waters was tested with a decinormal solution of hydrochloric acid, 20 cubic centimetres of the water being used in each case. It was found that distilled water was neutralised by 0·1 cubic centimetre of acid, tap water (New River) by 0·8 cubic centimetre, and the Llangammarch Wells water by 0·36 cubic centimetre. The direct action of the above waters on uric acid was then tested in the following manner. 250 cubic centimetres of the water with about one gramme of powdered uric acid were kept at 100° F. in a bath for some hours; 20 cubic centimetres of the solution were then taken, filtered, and treated with standard solution of permanganate of potassium. The results, which are denoted by the amount of solution of permanganate of potassium used, were as follows:—

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[2] Giuffrè: Cinquième Congrès de la Société Italienne de Médecine, Octobre, 1892.

[3] Brit. Med. Jour., vol. i., 1897, p. 200.

[4] Text-book of Medicine, vol. ii., p. 74.

[5] Diseases of the Heart, third edition, p. 132.

[6] St. Bartholomew's Hospital Reports, 1888, p. 200.

[7] Diseases of the Heart, p. 532.

[8] Philosophical Transactions, 1892.

[9] Charcot's Traité de Médecine, vol. v., p. 250.

Distilled water	2·4	cubic centimetres.	
Tap water	12·3	"	"
Llangammarch Wells water ...	6·6	"	"

The amount of uric acid voided in the urine was estimated as follows: 100 cubic centimetres of urine were mixed with 30 grammes of chloride of ammonium. This solution was allowed to stand for two hours, being frequently stirred, and was then filtered and washed with a saturated solution of sulphate of ammonium; the precipitate was washed off the filter-paper and after adding 20 cubic centimetres of sulphuric acid it was titrated with a standard solution of permanganate of potassium by Hopkins's method.

The experimenter at this time was suffering from obscure pains in the lumbar region and was passing rather less urine than normal, with a heavy deposit of urates. He was drinking about two and a half pints of liquid per diem, chiefly tea and New River water. He was taking a moderate meat diet. After a fortnight's dieting about two and a half pints of urine were passed in 24 hours the specific gravity of which was 1030. The reaction was acid and on analysis there was found to be 0·058 gramme of uric acid per 100 cubic centimetres. A glass of the Llangammarch Wells water was then substituted for the New River water. This was taken twice daily before meals, very little other liquid being taken. This diet was continued for a fortnight. It was then found that three and a quarter pints of urine were passed in 24 hours, the specific gravity of which was 1022, and 0·066 gramme of uric acid was passed per 100 cubic centimetres. After the mineral water had been discontinued for a fortnight two and a quarter pints were passed per diem, the uric acid amounting to 0·09 gramme per 100 cubic centimetres. The results are expressed in the following table.

TABLE I.

Diet.	Amount of urine in cubic centimetres	Increase per cent.	Amount of uric acid in grammes	Increase per cent.
1. Normal	1410	—	0·83	—
2. Mineral water	1900	31	1·25	50
3. Normal	1300	—	1·18	42

In each of the above cases the results represent a mean of two analyses.

A second series of experiments was then conducted, the urine being analysed while a normal diet was being taken and again after a mineral water diet of six days' duration. The results were as follows:—

TABLE II.

Diet.	Amount of urine in cubic centimetres.	Increase per cent.	Amount of uric acid in grammes	Increase per cent.
1. Normal	1130	—	1·03	—
2. Mineral water	1530	35	1·34	30

We conclude from the above observations that the effect of substituting the Llangammarch Wells water for ordinary water is to increase the quantity of urine passed and also to increase the output of uric acid. This increase of the latter is also maintained to a certain extent when the water is no longer taken, but gradually returns to the normal for that individual.

The relation of uric acid to the various manifestations of gout and its deposition in the kidney in the form of calculus has been studied during recent years by several eminent members of the medical profession who have contributed much to our information on the subject. Considerable advances have been made in our knowledge as to its circulation in the blood and the factors determining its deposition in the tissues. The influences affecting its elimination from the body are, however, less well known to us. Many attempts have been made to discover a solvent of uric acid, but these experiments have not as yet been successful. Several mineral waters have long enjoyed a repute in the treatment of this diathesis, but most of them do not act as solvents at all, their action being chiefly diuretic. Some of the well-known waters would even seem to be contra-indicated on chemical grounds, although clinically the results are good. According to an analysis of Contrexéville water, for example, sulphate of calcium is the only mineral ingredient occurring in any important quantity in this water.

In the above experiments it will be noticed that chemically tap water is a better solvent of uric acid than Llangammarch Wells water, yet when the latter was substituted for the former clinically there was an increase of the output of from 30 to 50 per cent. It will be observed that the increased diuresis was due to the action of the mineral water alone, as the same quantity of liquids was taken in each case. The action of the Llangammarch Wells water in eliminating uric acid has thus an important bearing on the treatment of chronic gout and allied diseases. The following evidence gives the results of its employment in such cases. A number of patients visit Llangammarch annually suffering from gouty swellings of the joints. After a course of mineral water in nearly every case there is considerable benefit, the swellings decrease, there is less pain, and there is less stiffness in the joint. In many cases baths of the mineral water and also massage are used with very good results. In a few instances which at first appeared most unpromising considerable relief has been obtained. In the same manner there has been success in the treatment of osteo-arthritis. We therefore consider that in the Llangammarch Wells water we have a valuable adjunct to the present treatment of the uric acid diathesis, that substance being eliminated in considerable amount, hence this water is indicated in cases of gout, osteo-arthritis, uric acid, gravel, and calculus. In addition to the mineral water treatment there are at Llangammarch the advantages of a spa within a few hours' journey from London, together with a mountain atmosphere and such various forms of exercise as walking, hill-climbing, golf, &c., which are invaluable aids to the balneologist.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A NOTE ON DIAPHRAGMATIC PLEURISY.

By GEORGE A. CLARKSON, F.R.C.S. Eng.

THE subject of diaphragmatic pleurisy is of exceptional interest to the surgeon on account of the symptoms being so very suggestive of some grave abdominal affection. The differential diagnosis is generally far from easy, for few signs, if any, are discoverable on the most careful examination and in the majority of cases no effusion follows. The most striking symptom is severe pain in the upper part of the abdomen. The diaphragm is fixed and the abdominal walls consequently do not move on respiration. The respiration is quickened and expansion is confined to the upper part of the thorax. There is generally some accompanying fever. Coupled with these symptoms is one of the most marked features in the disease, an extremely anxious countenance. The expression is such as one is accustomed to see in bad abdominal lesions. Some cases of pneumonia present this train of symptoms at the onset and I suppose that there can be no doubt that this is due to the presence of diaphragmatic pleurisy. The following case which came under my care illustrates in a striking manner most of these points.

Late one evening I was asked to see a boy, aged 11 years, whose mother gave me the following history. He had been perfectly well in the middle of the day when he came home to dinner and partook of a good meal. He then went out to play with some other boys and returned home ill and evidently in great pain. When I examined him there were no bruises or any signs whatever of injury on the body and no broken ribs. He complained of acute pain in the abdomen and lay on his back with his knees drawn up. The abdomen was somewhat distended, motionless, and very rigid. It was tender on pressure, but the tenderness was general and not localised to any one part. The breathing was moderately rapid, the upper part of the chest only being used. Nothing abnormal could be detected in the chest. The temperature was 102° F. and the pulse was 125 per minute. The boy's general aspect was one of pain and anxiety. As I was by no means clear in my mind as to the cause of these symptoms I awaited further developments. The following morning the boy was about the same but the abdominal symptoms were not so marked. There was less rigidity of the abdominal muscles and the knees were at times extended. The temperature was higher (103°) and the breathing was more rapid. In the evening fine crepitations could be heard at the base of the right lung and the case ran the usual course of one of lobar pneumonia. On the third day after the onset the abdominal symptoms had quite disappeared. The patient made an uneventful recovery.

I have had the opportunity of seeing a similar case of an adult exhibiting the same apparently acute abdominal symptoms which gradually gave way as the physical signs of pneumonia manifested themselves.

Leicester.

SARCOMA OF THE FEMUR.

BY FRANK A. ARNOLD, M.B. LOND.

THE following notes of a case of sarcoma of the femur may interest those who study the pathology of disease in people other than Europeans.

A young adult native was admitted into the Memorial Hospital, Bulawayo, on Oct. 15th, 1898, suffering from a large swelling over the lower third of the left femur. He stated that he first noticed that his thigh was swollen at Christmas, 1897, and that the swelling had since steadily increased. On admission a large tense tumour was found over the lower third of the femur, attached to both the bone and the skin. There was no fluctuation. The skin was broken for an area of about the size of a half-crown and the wound so formed was very foul. The swelling was about six inches across at its widest diameter and was fairly well defined and rounded. It was very painful but not tender to the touch. The veins of the skin over the swelling were not much enlarged. The glands of the groin were not more enlarged than would be accounted for by the skin wound. The "boy" had been picked up on the veldt and was weak although not emaciated. Examination showed no affection of any other part of his body. Amputation at the upper third was at once performed. Three days later the patient complained of pain in the right lung and he had a cough and slight hæmoptysis. Examination revealed crepitations all over the front of the right chest but no appreciable dulness. The pain was very great. The chest symptoms became more marked and in about 10 days definite dulness over the lower lobe of the right lung could be made out and from this time onward the signs of lung affection became more and more marked. The superficial veins of the body became enlarged and the face and neck, especially on the right side, became œdematous. There was no ascites. The patient died on Feb. 12th, 1899.

Examination of the amputated thigh showed that the growth had started inside the shaft of the bone at its junction with the condyles and had eaten through the anterior surface of the femur, splitting off the internal condyle from the rest of the bone. Hæmorrhage had taken place into the centre of the growth which was well defined except at the junction with the bone and the point where the overlying and adherent skin had given way. The post-mortem examination showed that the bases of both lungs and the mediastinal glands were occupied by a firm white secondary deposit. Elsewhere both lungs were studded with white isolated patches, some rounded and dimpled and others large, irregular, and undergoing cystic degeneration. Only small areas of healthy lung tissue were to be found in either lung. All the other organs of the body were healthy as was also the bone with the marrow of the stump. Microscopical examination showed the original growth in the femur to be a myeloid sarcoma and the secondary growth a spindle-celled sarcoma.

The point of interest in this case is that it shows that a malignant growth in a native may be identical in its origin, progress, and structure with a similar growth in Europeans. The "boy" was assumed to belong to the Zulu tribe. Although his skin was somewhat lighter in colour than is usual I do not think that either of his parents was a European. It is possible that there was a strain of European blood in the patient but if so it must have occurred two or three generations back.

Memorial Hospital, Bulawayo, South Africa.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

> *Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.*—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. MARY'S HOSPITAL.

A CASE OF PERFORATION OF GASTRIC ULCER; OPERATION; RECOVERY.

(Under the care of Dr. SIDNEY PHILLIPS and Mr. A. QUARRY SILCOCK.)

THE following case presents several features of interest. In the first place, 33 hours elapsed from the time at which the perforation occurred to the time of operation and yet the patient recovered, and this successful result cannot be attributed to the absence of the gastric contents for only an hour previously to the perforation she had partaken of a meal and peptonised milk was given even later. The fortunate issue must be ascribable in part to the smallness of the aperture of perforation and the rapid formation of peritoneal adhesions. We have on several recent occasions pointed out the rarity of a successful result in perforation of the stomach when more than 24 hours have elapsed between the perforation and the operation. This case also illustrates the great value of a gauze drain, for its presence rendered harmless the failure of the first attempt at closure of the perforation. The occurrence of parotitis in abdominal cases is always of interest and Mr. Silcock's suggestion as to the cause of this complication is very ingenious and may serve to explain many at least of the cases, if not all. We consider his recommendations as to the prophylactic treatment to be well worthy of trial.

A girl, aged 20 years, had in September, 1896, an attack of pain in the upper part of the abdomen with vomiting and kept her bed a week; since then she had been subject about every three months to attacks of the same character but of less severity and without vomiting. Between the attacks she had been free from pain and had not restricted her diet in any way. She had an attack in February, 1898, and one in May of the same year. There had never been any hæmatemesis. The attacks were regarded as hysterical. She was unusually well during August and until Sept. 14th, 1898; on the 13th she ate a raw apple as she had frequently done before and had no discomfort after it. On the 14th she ate breakfast as usual and at 11 A.M. she took some cocoa and bread and butter; one hour later she experienced severe pain in the upper part of the abdomen and lay down on the floor. Soon afterwards she vomited. Dr. A. B. Rendel, who saw her in the afternoon, found her somewhat collapsed, and he had a bed made up for her in the room where she was taken ill. She had peptonised milk and ice to take. The evening temperature was 100° F.; during the night there was pain in the abdomen and shoulders and she vomited twice. She was sent to St. Mary's Hospital on the 15th at 5 P.M. Dr. Phillips saw her at 7 P.M. She was a well-nourished, healthy-looking girl. The face was flushed, there were slight dark areolæ under the eyes, the features were a little pinched, the tongue was clean, abdominal movements were a little restrained, and there was hyperæsthesia over the whole abdominal surface. She complained of pain in the right iliac fossa, but there were no dulness on percussion, no tumour, and no tenderness in this region; there was, however, acute tenderness over an area of about two square inches immediately to the left of the linea alba just above the level of the umbilicus; here there was more resistance than elsewhere and slight defect in percussion resonance. Liver dulness could be mapped out in the margin of the thorax. No stomach note could be obtained except in the region of the left axillary line; there was no bell sound obtainable. The pulse was 120, very sudden and jerky, and the temperature was 100·2°. She had vomited just before admission.

Remarks by Dr. SIDNEY PHILLIPS.—The sudden acute abdominal pain, collapse, and vomiting, with subsequent pyrexia, pointed to a perforation of some part of the alimentary canal. The pain was felt in the iliac fossa, but pain is of little value as a localising symptom in acute abdominal disease, and in the absence of tenderness, tumour, percussion dulness, or undue resistance in the right iliac region appendicitis was negatived. The local tenderness and the tension of the left rectus muscle suggested that the lesion was in the situation of the stomach and the symptoms pointed so strongly to a perforation that the pre-existence of an ulcer of the stomach seemed certain though the history of paroxysmal attacks of pain with intermissions of many weeks was unlike the course of ulcer as generally described; the intensity and localisation of the tenderness pointed to its being on the anterior surface. There was no encroachment on the liver dulness and a stomach note could be obtained in the axillary line; the stomach therefore was not entirely empty of gas nor was there any evidence of widespread escape of gas into the peritoneal cavity. Perforation of the stomach may, no doubt, be recovered from, but that is most likely when the stomach is empty or where there are previous adhesions; in this case the stomach contained liquid at the time of the perforation and afterwards. The fever, the quick pulse, and the flush of the patient's face made the presence of peritonitis certain and the general condition would, I felt sure, rapidly become worse. I therefore sent at once to ask my colleague, Mr. Silcock, to operate and after a little delay in obtaining the consent of the mother the girl was brought into the operating theatre at 9 P.M. I noticed immediately before the operation that the physical signs had somewhat changed and that there was hyper-resonance over part of the right hypochondrium. The notes were taken by Mr. W. Ferris, my clinical clerk.

Operation.—At 9 P.M., ether being administered, an incision two and a half inches long was made by Mr. Silcock a little below the xiphoid cartilage in the linea alba; the structures of the abdominal wall were divided, the subcutaneous fat being thick. Recent adhesions of lymph were found in all directions on opening the peritoneum. The wound was now lengthened and a horizontal cut was made to the left side for one and a half inches. A good deal of serum escaped, and upon examination a small perforation was found a little to the left of the linea alba in the lower part of the anterior wall of the stomach, through which escaped a small quantity of frothy mucus. The surrounding peritoneum was covered with soft adhesive lymph. After cleansing the wound several unsuccessful attempts were made to close the perforation by invaginating its edges and stitching with Lembert's sutures, failure being due partly to the difficulty of passing sutures at the bottom of a deep wound with the left lobe of the liver overhanging the perforation, and partly to the stitches cutting through the softened tissues. However, by the aid of long rectangular cleft palate needles and silk sutures this was ultimately effected. The wound was washed out with sterilised water, the greater part of the vertical parietal incision was closed with silkworm gut sutures, and a large double cyanide gauze drain and dressing were applied. The operation lasted one and a half hours. The patient passed a quiet night; there was not much pain and no sickness. On the 16th the temperature at 10 A.M. rose to 101°. Enemata of three ounces of peptonised milk or beef tea with brandy were given every four hours. The wound was dressed in the afternoon and brown biliary fluid was found on the dressings. Soon afterwards a greenish fluid was vomited, with escape of thick green acid fluid from the wound. On the 17th she was better: the temperature was from 100° to 102°. There was a copious greenish discharge; the sutures had evidently given way, and by the aid of an electric lamp the perforation could be seen at the bottom of the wound. On the 18th the maximum temperature was 101°. The wound was irrigated with boric acid lotion and plugged with cyanide gauze wrung out in a solution of bicarbonate of soda. On the 19th there was acute pain with tenderness and swelling of the left parotid gland, the temperature rising to 102°. Belladonna fomentations were applied, and acid drops were ordered to be sucked to stimulate the flow of saliva; the nutrient enemata were well retained. She had one-eighth of a grain of acetate of morphia, but did not sleep well. On the 20th the parotitis was less acute. Relief was afforded by the application of dry heat by means of a Japanese muff warmer. The temperature was from 101·6° to 102°. A bile-stained discharge was still present. On the 21st the maximum temperature was 101°. The discharge was offensive. Iodoform gauze plugging was substituted for the cyanide. On the 22nd the temperature was 100·4°. There was dulness with some tenderness in the left hypochondrium, and Mr. Silcock passed a long probe from the wound towards the left into a cavity from which the offensive discharge could be seen to flow, and decided to at once make a counter opening. Under an anæsthetic the wound was well irrigated. A counter-opening by a horizontal incision one and a half inches long was made in the eighth left costal space: a large drainage tube was then passed from one wound to the other and the cavity was again irrigated. The little finger inserted through the perforation detected no signs of ulceration of the surrounding mucous membrane. With some difficulty the edges of the perforation were invaginated and approximated by three Lembert's sutures. The sutures were deeply passed and must have included nearly the whole thickness of the gastric wall. The wound was plugged lightly with cyanide gauze and a dressing was applied. The patient recovered from the anæsthetic without sickness. The temperature rose to 104° in the afternoon and fell to 102° by night. The wound was dressed at night; it was less offensive and there was no discharge from the stomach. On the 23rd the maximum temperature was 100 6°. The discharge was still offensive, but none came from the stomach. All parts of the wound were covered with healthy granulations. On the 24th she took food by the mouth for the first time, three drachms of sweetened barley water being allowed every two hours. There was no leakage from the stomach. From this time forward the patient made an uninterrupted recovery. On Nov. 21st she got up, the wounds being practically closed, and was discharged to a convalescent home on Dec. 14th.

Remarks by Mr. SILCOCK.—We are much indebted to Dr. W. C. Wood, house surgeon, for the careful surgical notes of the case. The failure to effect permanent closure of the perforation at the first operation and the success attending the second show how unnecessary it is, as often has been insisted, to do more than provide for the exit of the extravasated stomach contents from the peritoneal cavity, where that is possible, in cases in which the complete operation would from its complexity or long duration endanger life. The occurrence of parotitis in abdominal cases is not infrequent. May it not be due to the fact that such patients often enough suffer from stomatitis, for but little food is taken and that fluid in kind, or possibly none may be allowed, as in our case: the mucous membrane thus becomes fouled, there is no stimulus to the flow of saliva, consequently infective organisms may find their way up the parotid or other salivary duct, the current of fluid in which may be materially lessened in force and volume. *Hence it is well to see that* the mouth and teeth are cleansed, and possibly it may be a *good thing* to allow the patient to stimulate the flow of saliva by some such means as that adopted in our case. The patient reported herself in January, 1899, as perfectly well.

WEST OF ENGLAND EYE INFIRMARY, EXETER.—The foundation-stone of the new building of this institution will be laid by Mr. George Franklin, J.P., on April 11th. Up to the present £7541 have been received towards the building fund, but further donations are much needed.

LITERARY INTELLIGENCE.—Messrs. Williams and Norgate's book circular for March includes the following recent publications:—"Untersuchungen über Strukturen, insbesondere über nichtzellige Erzeugnisse des Organismus," by O. Butschli; "Grundriss einer Geschichte der Naturwissenschaften," vol. ii., by F. Dannemann; "Die Masken und Geheimbünde Afrikas," by L. Frobenius; "Geschichte der Wiener Universität von 1848-98"; "Technisches Wörterbuch in Vier Sprachen" (English, Italian, German, French), by E. Webber; "Leçons de Clinique Surgicale," by P. Delbet; "Handbuch der Toxikologie," by Professor A. J. Kunkel; "Lehrbuch der Speziellen Chirurgie," by H. Tillmann; and "Das Becken mit [illegible] Beri[illegible]igung der Chirurgie und Gynakologie," [illegible] W. [illegible]er.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Experiments on the Toxicity of Urine.—Epithelial Tumours of the Eyebrow.—Diffuse Syphilitic Change in the Liver.—Exhibition of Specimens.

A MEETING of this society was held on March 21st, Dr. CHARLEWOOD TURNER, Vice-President, being in the chair.

Dr. HERRINGHAM gave an account of a series of Experiments upon the Toxicity of Urine. He recalled the fact that since disease of the kidneys had been known to be a cause of death this effect and the general group of symptoms to which the name "uræmia" was given had been till recent years universally, and were still commonly, believed to be due to the retention of waste products. Recently uræmia had been explained by the loss or perversion of an internal secretion, but the evidence for this was as yet insufficient. No definite poisonous constituent of the urine had been demonstrated in uræmia. Urea, uric acid, and all the known organic bodies which the urine contained had been injected into the circulation in excessive quantities without producing the symptoms. In default of any satisfactory explanation by these means pathologists had been driven to other theories—first, that of cerebral œdema championed by Traube; secondly, theories which ascribed uræmia, not to a constituent of the natural urine, but either to a body produced by decomposition of the retained urine within the body, such as Frerich's ammonium carbonate, or more recently to a precursor of urea, such as the salts of carbamic acid, which were put forward by Nencki and others on experimental evidence. Fresh light was thrown on the subject by the experiments of Feltz and Ritter in France and Astachewsky in Russia who in 1881 injected considerable quantities of urine itself into the circulation in dogs. They ascribed the fatal effects of these injections chiefly, or even entirely, to the potash salts. Their experiments were repeated by Bouchard of Paris who denied the sufficiency of the potash salts on several grounds, ascribed a partial toxicity by a kind of division of labour to all the constituents of the urine, and supposed that seven different poisons existed in the urine, each productive of a special symptom. Bouchard further found the urine of sleep less toxic than that of day and more convulsant in its effect and was led to form a theory of sleep, according to which men by day secreted a body possessed of narcotic properties which by its accumulation induced sleep, while during sleep this gave place to another substance of a convulsant nature which by inducing muscular movements led to waking. Dr. Herringham had been engaged during the last three years in repeating these experiments and during the same time Beck in Germany had been similarly occupied. Their conclusions so far as their work had overlapped were similar. Bouchard's statements rested upon no chemical analysis, but upon physiological symptoms alone. He had produced not one of the bodies whose presence he asserted, and had not even observed the presence or variation of those bodies known to exist in the urine. For instance, while denying the sufficiency of potash salts he gave no quantitative analysis of the amount contained in the urines injected. Furthermore, in many respects neither Beck nor Dr. Herringham were able to confirm his account. The urine of sleep, for instance, was not in their experience more convulsant than that of day. Thirdly, the variation of rabbits, which were the animals upon which Bouchard experimented, was so great that the differences upon which Bouchard relied were within the error thus caused. Dr. Herringham had endeavoured carefully to observe the symptoms induced in rabbits by these injections and then to compare by quantitative analysis the variation of different constituents of the urine. By this means he reached the conclusion that none of the constituent bodies but potash varied with the toxicity of the urine, and after making a necessary modification of the classical method of potash analysis in urine he was able to show so close a parallel between these two that he had no doubt that potash was the only cause of the fatal result. In every instance there was sufficient, and in nearly all much more than sufficient, potash to produce death. The lesser toxicity of the urine of sheep was simply owing to a lesser excretion of potash. Diagrams were exhibited to show the relation of various other urinary constituents and of potash and also illustrated the extent of variation in rabbits as evidenced by cases in which a pair of rabbits had been treated with the same sample of urine. The difference between the two animals was never less than 6 per cent. and ran up to 52 per cent. The symptoms of animals thus injected were myosis, drowsiness, lowering of blood-pressure from cardiac failure, retardation and embarrassment of respiration, loss of body heat, and finally fatal convulsions. The resemblance of these to uræmia was evident but no conclusion could be drawn thence until clinical investigation had followed up the suggestions of experiment. Since the degree of the urinary toxicity was merely an inexact way of stating the amount of potash salts, injection experiments on animals could not take the place of quantitative chemical analysis. Bouchard had laid down a standard of excretion for the normal man, but Dr. Herringham had found the normal to vary under ordinary conditions (and much more under conditions of light diet and rest in bed) too greatly to admit of any useful comparison in disease unless by a long series of observations on each patient. Isolated estimations were quite valueless. Lastly, Bouchard had rested his theory of auto-intoxication in general largely upon the conclusions derived from urinary toxicity. Auto-intoxication was a word of confused meaning, comprising, firstly, cases of perversion or loss of the internal secretion of a gland; secondly, cases of perverted metabolism during primary or intestinal digestion, with absorption of the abnormal products; and, thirdly, similar processes occurring during the hepatic or even during later stages of assimilation. The only proved instance of the first class was that of the thyroid; the second and third were purely hypothetical. Urinary toxicity being due to potash salts could not lend support to the use of the term auto-intoxication under any of these three meanings.—Dr. CHARLEWOOD TURNER observed that in uræmia there was not merely retention of substances, but a condition in which the secreting substance of the kidney was altered, and the production of urinary ingredients was interfered with so that the natural secretion failed to be performed. The conditions in experimental injection of urine into the veins of animals were not the same as those in the production of uræmia, as the blood received the poisons suddenly instead of gradually. He still thought that the symptoms of obstruction did not quite correspond with those of suppression. So far as the cause of the toxicity of urine injected into animals was concerned Dr. Herringham's experiments appeared to be decisive.—Dr. ROSE BRADFORD confirmed the description given of the train of symptoms which followed the injection of urine into the circulation of animals. If Bouchard's theory were correct the urine in uræmia should have lost its toxicity, but this was not the case. Dr. Bradford did not think that there was any one cause for uræmia, as it was not due to the retention of any one constituent of the urine. No one had succeeded experimentally in producing uræmia by excising the kidneys or ligaturing the ureter, these producing the condition described by Sir William Roberts under the term "obstructive suppression," symptoms which he could not agree with Dr. Herringham in regarding as the same as those of uræmia due to structural disease of the kidney. He mentioned a case which he published in which there was necrosis of the cortex of both kidneys in which the patient lived a week, passing only about two drachms of urine, but there was clearness of mind up to the end, the symptoms being those of calculous suppression.—Dr. HERRINGHAM, in reply, said that he had been careful to avoid suggesting that the conditions in man were the same as those in the rabbit. He had not intended to infer that uræmia in man was due to retention of potash salts, but he thought that he had proved that the presence of potash salts was the cause of the toxicity of the urine when injected into the veins of an animal.

Dr. RADCLIFFE CROCKER read the account of a case of Multiple Tumours arranged in a Vertical Band from the right eyebrow to the hair margin in a girl aged 10 years. They had been developing six years, apparently as the result of a slight injury. They were convex, pale red, and varied in size from that of a hempseed to that of a half of a damson and gave no inconvenience. Structurally the growth was deep in the corium, composed of small epithelial cells in lobules separated by fibrous septa, with the appearance of a rodent ulcer. Their development could be distinctly traced from several ducts and hair follicles. The sebaceous glands were absent or rudimentary and could not be proved to take any part in the tumours, as there were no intermediate stages. Dr. Crocker suggested that the tumours were derived from the embryonically defective appendages of the skin and probably were excited by a blow on the forehead —Mr. RAYMOND JOHNSON showed sections from a similar specimen removed from the shoulder of an adult woman, where it formed a flat elevation. It was covered by epidermis. It consisted of masses of epithelial growth closely resembling the appearances in rodent ulcers. He also referred to a similar specimen removed from the buttock.

Dr. F. PARKES WEBER showed Sections from the Liver of a man, aged 47 years, the subject of advanced tertiary syphilitic disease of the testes, &c, who died from cerebral hæmorrhage The liver was somewhat enlarged (the weight was 67 ounces) and, though it showed no distinct gummata or scars resulting from gummata, presented a diffuse, more or less generalised fibroid change Microscopic sections showed that this change might be regarded as the result of a "peri cellular" or "peri capillary' cirrhotic process such as had been more frequently recorded in connexion with congenital syphilis than with the acquired disease What Dr Weber specially drew attention to was a tendency in the present instance and in some analogous cases for the fibrous change to be most advanced in the central portions of the acini and least noticeable around the portal spaces The best preserved glandular cells were those at the periphery of the acini, precisely those which were most likely to be encroached upon in ordinary cirrhosis. The fact that the inner and middle zones of the acini were the most affected, just as they were in chronic passive congestion and amyloid disease (which latter was absent in the present case) respectively, suggested that the harmful process in diffuse syphilitic disease of the liver was connected rather with the minute branches of the hepatic artery than with those of the portal vein. An analogy might be drawn between the change pointed out by Dr. Weber in the liver and the change observed in some cases of "cardio-sclerosis" when the portions of the myocardium farthest removed from the arterioles were chiefly affected by the fibroid degeneration

The following card specimens were exhibited:—

Dr NORMAN DALTON. Two cases of Involvement of the Recurrent Laryngeal Nerve (1) by an Ulcer of the Trachea, and (2) by Calcareous Mediastinal Glands

Dr. CAMPBELL THOMSON: Secondary Growths of Melanotic Sarcoma in the Small Intestine

Dr. PARKES WEBER Lipoma of the Kidney

Mr. CECIL BEADLES: (1) Spontaneous Rupture of the Heart; and (2) Hæmorrhage into the Suprarenal Body

Dr. H D ROLLESTON: Exulceratio Simplex of the Stomach.

HARVEIAN SOCIETY OF LONDON.

Modern Views on Gout

A MEETING of this society was held on March 16th, Mr HENRY JULER, President, being in the chair

Dr MOUILLOT read a paper on Modern Views on Gout in Relation to Treatment. He commenced by defining gout as a disease in which uric acid in the form of a quadriurate was present in the blood in recognisable quantities and in which this uric acid was deposited from the blood into the tissues as sodium biurate This latter compound was only soluble in serum to the extent of one part in 10 000 and in distilled water at blood heat to the extent of one part in 1000 The formation of uric acid was then discussed at some length, preference being given to the view that it was produced in the liver. It was a clinical fact that excess of animal food and alcohol directly tended to gout Wines so noted because of their injurious effect on the liver and not on account of their acidity. When excess of animal food and wine went together the greatest injury was done to the metabolic activity of the liver, and the prevalence of acute gout in former times was due to this excess The symptoms of acute gout needed no description, but in chronic and irregular gout there was much difference of opinion among medical men with respect to the class of patients they called gouty, particularly in the differentiation of gout from rheumatism Dr Mouillot's opinion was that gout was a common disease but that rheumatism was rare He did not say that there was no such thing as rheumatism apart from rheumatic fever, but cases of rheumatic arthritis became fewer as one gained experience With respect to treatment, colchicum was the drug *par excellence*, because it acted as a powerful stimulant to the liver and intestinal glands, improving the metabolism in the liver and removing by the bowels some of the antecedents of uric acid Mercury was undoubtedly also called for in most cases of acute gout Dr. Mouillot had found salicylate of soda unsatisfactory and would probably never use it again. The chief dietetic faults of the gouty were eating too much and drinking too much and also drinking too little This last fault was a very serious one and was specially noticeable in women and teetotalers Women had been so often told that in order to retain their figures they must not drink at meals that many approaching middle life drank far too little fluid. The tendency to stoutness which caused women to restrict their allowance of fluid, coming on as it usually did about the same time as the menopause, was a factor which, added to the cessation of the menses, accounted for the great number of mildly gouty women from 45 to 50 years of age. One good meat meal was generally sufficient with vegetables in moderation, whilst at another meal a little fish, with vegetables and fruit in quantity, might be taken In very bad cases the different types of food should not be habitually taken at the same meal Wines were best avoided Vegetarian diet was neither necessary nor desirable except in the rare cases where patients were unable to digest meat Plain water, Salutaris, Vichy, or Apollinaris should be drunk at 11 A M. and at bedtime. Too little fluid was a common cause of ill health A moderate amount of exercise should be taken daily, but excessive muscular exertion should be avoided Turkish and other baths should be used regularly. Dr. Luff's work showed the futility of trying to dissolve sodium biurate by alkalies, but at the same time alkalies did have in some cases a beneficial effect on digestion and metabolism, so that if thought desirable lithia or some other alkali could be added to the water that was taken No reference was made to foreign spas, but Dr. Mouillot said that at the British ones, such as Harrogate, Bath, Buxton, or Strathpeffer, one could not go wrong by placing a patient under the care of a judicious local practitioner who ought to be left in full control of the case. He by no means agreed with Sir William Roberts in condemning waters which contained sodium salts There was a great similarity between the action of strong sulphur saline waters and that of colchicum They were both cholagogues and both diminished the output of uric acid Their beneficial effect on gout was in both cases due to their stimulating influence on the liver and intestinal glands Dr. Luff claimed for colchicum an indirect solvent effect on uric acid, as by diminishing its amount in the blood it enabled that fluid to take up some which had been deposited in the tissues, and Dr. Mouillot made the same claim for the Harrogate waters on exactly the same grounds

Dr BEZLY THORNE said that it had been a pleasure to him to listen to an exposition of views so largely in accordance with his own, while he explained that his own were founded upon personal experience

Dr A P LUFF urged the importance of avoiding the use of salicylate acid or sodium salicylate in the treatment of gout since it was not only useless but in many cases he had found it do positive harm He entirely supported Dr. Mouillot's statement that many gouty people drank too little and especially had he found this to be the case with female gouty patients in whom the total amount of daily fluid consumed would frequently average not more than from 18 to 20 ounces He thought that his investigations on the influence of alkalies on the solubility of gouty deposits had been misunderstood by many medical men He had never advocated the abandonment of alkalies in the treatment of gout. What he had shown was that alkalies and their congeners were useless when administered with the object of dissolving gouty deposits, but he (Dr Luff) frequently employed alkalies in the treatment of gouty dyspepsia and of gouty affections of the liver

Mr WILLIAM ARMSTRONG, while agreeing with Dr. Mouillot that gout was more frequently met with than rheumatism, thought that there was just now rather a tendency to consider all articular and muscular pains gouty and to under estimate the rheumatic element which was often of considerable importance from the point of view both of therapeutics and of dietetics Dr Luff's valuable work had shown that in cases of persistent gout and goutiness there was almost constant failure to excrete the normal amount of uric acid and he (Mr Armstrong) had been greatly aided in the diagnosis of doubtful cases by the estimation of the 24 hours urine by the Gowland-Hopkins method. With regard to dietary as a general rule a certain amount of butcher's meat was necessary; in a considerable number of cases on a non-meat diet he had observed that although the actual amount of uric acid formed got less the rate of excretion diminished to a still greater degree. Beef and mutton certainly stimulated the process of excretion. In nearly 100 cases dieted exclusively on minced beef and hot water there was at first an enormous increase in the quantity of uric acid excreted, which the advocates of a non-meat dietary would say was conveyed into the system by the beef; but as the gouty troubles improved the excretion gradually fell to normal, although there was no change in the diet. In giving red meat to the gouty it was necessary to cut down as far as possible the consumption of carbohydrates and of milk and also to insist upon the drinking of hot water one hour before each meal. Fresh vegetables were of the greatest value, but they should be well cooked and should be freed from crude and indigestible matter. A separate vegetable course at dinner was most useful. Certain gouty cases could be treated with an equal amount of success either on the lines suggested or by the dietary advocated by Dr. Alexander Haig, consisting mainly of carbohydrates, milk, and fruit; but it was of the first importance that the two classes of food should not be mixed as in that direction lay certain disaster for the gouty. Modern researches concerning gout seemed to resolve its treatment into two portions: (1) the prevention of the formation of the antecedents of uric acid by attention to the condition of both gastric and duodenal digestions and to the action of the liver—that much abused organ which was so frequently the victim rather than the culprit; and (2) the stimulation of excretion by attention to the functions of the kidneys, skin, bowels, and nervous system. To a lowered condition of the last named much of the modern irregular gout was due.

Dr. Mouillot, in reply, said that he was much interested in Dr. Bezly Thorne's experience. It bore out his view that the initial difficulty in gout was a digestive one and that the gouty were unable to digest the various classes of food at the same meal. The rigidity of the diet rules must be in proportion to the severity of the symptoms, as a sacrifice which it might be worth while making in a severe case might not be so in a mild one. He said that his view was that the true cause of gout was digestive and that the uratic deposits which were responsible for most of the symptoms were due to subsequent failure of the kidneys either as a coincidence or caused by the toxic poisoning due to the uric acid or perhaps some other poison. Dr. Mouillot was quite sure that Mr. Armstrong's practice of calling in the aid of the skin to assist the diuretic action of the Buxton waters was sound and would limit the number of gouty attacks whilst taking the waters.

BRITISH GYNÆCOLOGICAL SOCIETY.

The Germ Theory of Disease, with Special Reference to Gynæcology.

A meeting of this society was held on March 9th, Dr. Macnaughton-Jones, President, being in the chair.

Dr. Granville Bantock read a paper on the Modern Doctrine of Bacteriology, or the Germ Theory of Disease, with Special Reference to Gynæcology. He defined the modern doctrine of bacteriology as being this—viz., that in the majority of, or as some extremists held all, acute diseases the condition was due to the influence of a specific so-called pathogenic micro-organism. He proceeded to combat this view by propounding the very opposite doctrine, that the presence of these various micro-organisms was the result and not the cause of disease—in other words, that the disease furnished the conditions necessary for the presence of the special micro-organism. He referred to the experiments of Mr. George Stoker on the healing of wounds treated by oxygen gas which led him to the conclusion that in proportion as the staphylococci were numerous and well developed so the healing process progressed. The recent observations of Dr. H. D. Robinson showing that the gonococcus was present in 76 cases of vulvitis in children were quoted in illustration of the view that gonorrhœa was not due to the gonococcus. He criticised Mr. Lockwood's paper on Aseptic and Septic Surgical Cases and maintained that the presence of micro-organisms in the skin did not justify the description of the skin as being "septic." He pointed out, further, that Kopinski in a recent paper in the *Medical Press and Circular* stated that "in healing by first intention both saprophytes and pathogenic micro-organisms were present in the wound." Consequently he regarded the elaborate precautions now adopted in securing antisepsis and asepsis as a superfluous "ritual" which gave no better results than the observance of simple cleanliness. In conclusion, he claimed to have shown that the poisons of variola, vaccinia, and syphilis were not and could not be the product of a bacillus; that Löffler's bacillus was not a constant and therefore could not be the essential element for the production of an attack of diphtheria; that the essential element in the case of gonorrhœa was not the gonococcus; that the essential element in the case of typhoid fever was not the bacillus typhosus and that this bacillus could not live but a few hours in ordinary sewage; that not a single specimen of this bacillus had ever been discovered in sewer air and hence that typhoid fever could not be attributed to it because of its contained germs; that in the cases of the epidemics at Maidstone and King's Lynn there existed no proof of the contamination of the water by typhoidal matter, as indicated by the presence of the bacillus typhosus; that there was no evidence worthy of the name that tuberculosis was due to the ravages of the tubercle bacillus; that the comma bacillus could not be regarded as the essential element in the production of an attack of cholera and that the same could be said of the plague and its special bacillus; that the so-called pathogenic micro-organisms were constantly found under conditions consistent with perfect health and that in more than one notable instance they not only appeared to, but actually did, exert a beneficent influence.

Dr. Allan Macfadyen remarked that it was a unique experience to him to hear such theories as Dr. Bantock had propounded in Lister's country; he had come prepared to listen to, and to take part in, a serious discussion. The experimental research of the last 10 years did not appear to exist for Dr. Bantock nor had he brought forward one word of proof for the statements he had made. It was difficult to appreciate or deal with such an attitude of pure negation and he therefore abandoned any hope of convincing Dr. Bantock. Dr. Bantock had asked, "Where was the germ theory of disease now?" He replied that it stood exactly where it did before Dr. Bantock commenced his attack. He would leave it to the members of the society who were acquainted with the elementary facts of bacteriology to make their own choice as to whom they would follow—Pasteur, Lister, and Koch, or Dr. Bantock. If he were a guest of the society on some future occasion he would be pleased to discuss the questions raised in a more serious fashion than they had listened to that evening.

Mr. George Stoker said that his position was midway between two extreme views—on the one hand, that all micro-organisms in wounds were bad, and, on the other hand, that none were bad. He believed that some were harmful and some were useful, and in the latter class he included the staphylococcus. He had made observations on over 250 cases of ulcers and in all rapidity of healing was in proportion to the number of staphylococci present. He exemplified his remarks by illustrative cases.

Dr. R. T. Hewlett said that negative evidence such as Dr. Bantock had adduced was of little value unless overwhelmingly supported. With regard to the Maidstone epidemic Dr. Bantock was hardly fair, for he omitted to mention that from four to six weeks had elapsed between the date of infection and the commencement of the examination; and he ignored other epidemics, such as that at Worthing, where the typhoid bacillus had been isolated from the water. In diphtheria the bacillus could be detected in the membrane in the great majority of cases. The whole cycle of splenic fever could be observed in a lower animal and he could not see that anyone who investigated the matter could escape the conclusion that the bacillus anthracis was the causative agent. With regard to ovariotomy, he would remark that the peritoneum was exceptional and would suffer with impunity a treatment that would not be tolerated by any other serous membrane. Attempts to open the knee-joint without strict antiseptic precautions would end in disaster.

Dr. Inglis Parsons regretted that so distinguished a surgeon as Dr. Bantock should hold such erroneous views on pathology. No comparison could be made between a modern hospital like the Samaritan and one of the older hospitals. He instanced the practice of two surgeons when he was a student; one adopted strict antiseptic precautions and his results were excellent, and the other decried Listerism and had to give up certain operations because of the bad results Dr Bantock's practice refuted his theories

Mr BOWREMAN JESSETT contended that Dr Bantock in his former practice of using sulphurous acid in the treatment of stitch abscesses and in his present practice of boiling his silk ligatures practised antisepsis and asepsis Heat was the best disinfectant they had Would Dr. Bantock explain why he boiled his silk?

Dr CLEMENT GODSON thought it would be disastrous if Dr Bantock's paper had the effect of shaking the faith of midwifery practitioners in the employment of antiseptics In a Presidential address which he had delivered before that society, he had shown the marvellous change which had taken place in the City of London Lying in Hospital since the introduction there of corrosive sublimate Last year among 565 cases there had not been a single case of septicæmia It would be indeed sad to revert to a mortality of one in 19, which existed when he first became attached to that hospital; and he had no doubt that the change was due to the thorough use of antiseptics

Dr MACPHERSON LAWRIE declared himself an adherent of the germ theory of disease He thought that the address to which Dr Godson had alluded furnished overwhelming evidence in favour of the antiseptic treatment of disease

Dr C H F ROUTH referred to the historical incident of the elucidation of the cause of puerperal fever by Semmelweis in the Vienna Maternity and contended that his researches formed a strong proof in favour of the germ theory of disease

Dr P. Z HEBERT said that Dr Bantock had told them that germs were the result and not the cause of disease But disease was a condition, not a material entity Did Dr Bantock maintain that bacteria were produced *de novo* by disease? Or did he think they were formed out of the diseased tissues? If not, where did they come from since Dr Bantock denied their presence in the air?

Dr A W ADDINSELL did not think Dr Bantock could congratulate himself on his powers of prophecy, because the doctrine of bacteriology held the field more victoriously than 12 years ago, when Dr Bantock prophesied its speedy downfall With regard to Mr Stoker's experiments Dr Addinsell contended that the correct explanation was that in the wound treated with mercury the drug had killed not only the staphylococci but also the granulations on which healing depended The other ulcer healed because oxygen favoured the granulations and also diminished the virulence of the staphylococci This view was supported by experimental proof The absence of the gonococcus from a pus tube was no argument against the dependence of gonorrhœa on the gonococcus, for under certain conditions the latter lost its vitality

Dr H. JELLETT thought that Dr Bantock had overlooked two important points the first was the difference in virulence of bacteria which were morphologically the same, and the second was the immunity acquired by patients to the action of a particular form of bacteria as the result of the continued presence of that bacterium in the body One case in four in which the gonococcus was present in cases of pyosalpinx was a large proportion if they took into account the number of cases of sterile, of tuberculous, and of septic pus tubes Why did Dr Bantock wash his hands even to the slight extent that he did? Was it a mere ritual?

The PRESIDENT said that he was an adherent of Lister's teachings from the days of the impermeable shellac with carbolic putty dressing down to the present time He ridiculed the idea of drawing those distinctions made by Dr Bantock between what he called the "grosser forms of septic mischief" and the lesser Such teachings as those enunciated in the paper set back the hands of the clock so far as medicine was concerned some 25 or 30 years and they were all the more serious and dangerous because they emanated from one who was acknowledged to be a brilliant operator He could not help coming to the conclusion that Dr Bantock had not made himself fully conversant with the researches of bacteriologists within recent years The attitude of the society should be such that its verdict should be unmistakeable in repudiating the views they had heard

Dr BANTOCK, in reply, said that he was disappointed at the course the discussion had taken, for no attempt had been made to refute a single point in his paper. All the speakers avoided these points and while professing to be followers of Lister showed that they had taken no notice of his latest teaching but adhered to that of 20 years ago He was twitted with having avoided the typhoid fever epidemic at Worthing He could retort that his critic equally avoided the Maidstone epidemic, as to which Dr Poore in his Milroy Lectures substantially agreed with him

PATHOLOGICAL SOCIETY OF MANCHESTER

Ureteral Calculi Removed by Suprapubic Cystotomy —New Method of Staining —Exhibition of Specimens

A MEETING of this society was held on March 8th, Dr R B WILD, President, being in the chair

Dr KELYNACK, on behalf of Professor DRESCHFELD, showed a preparation from a case of Cardiac Rupture with Communication between the Ventricular Cavities

Mr STANMORE BISHOP showed Three Ureteral Calculi removed by Suprapubic Cystotomy Two cases occurred in males and one in a female The first, in a boy, aged 13 years, produced the usual symptoms of vesical calculus, was easily recognised by the sound, but was evidently fixed At the operation six years ago an oxalate of lime calculus of the shape of a wheatsheaf was found, the stalk being fixed in the lower end of the ureter Perfect recovery ensued and a report of good health was made last month The second case, a woman, gave a history of renal colic at intervals since the age of 13 years Menstruation commenced at 15 years After this the pain was accentuated at the periods Both ovaries and tubes had been removed a year previously by another surgeon but without relief Stone was detected by recto bimanual examination, it could not be felt from the vagina It was removed but the patient died from anuria In the third case, a boy, aged seven years, had complained of symptoms of vesical stone "since he was a baby" and a calculus weighing two ounces was found in the bladder and removed The patient, however, did not improve, the temperature rose, and there was still great pain Thinking that there might be an accumulation of pus in the cavum Retzii a rectal examination was made and a second stone was detected in the lower end of the ureter This was removed and at once allowed the exit of pus from the corresponding kidney The patient made a slow recovery Mr Stanmore Bishop discussed the symptoms produced by, and the various operations proposed for, ureteral stones impacted in this situation In reply to Dr Harris Mr Bishop pointed out that a satisfactory result from massage must be very exceptional, that in two of the cases under discussion it could not have been borne, and that in the third it would have been extremely risky

Dr ORR read a preliminary note of a New Method of Staining the Myelin Sheath of Nerve Fibres in the Brain and Spinal Cord The method consisted in the penetration with osmic acid of formalin hardened blocks of tissue to bring out the normal fibres, and should it be desired to stain the morbid fibres then the nervous tissues—as in Marchi's method—had to be previously hardened in bichromate of potassium, 2 per cent, or in Müller's fluid The blocks of tissue should not exceed one eighth of an inch in thickness The osmic acid was mixed with acetic acid in the following proportion osmic acid, 2 per cent, four cubic centimetres, acetic acid, 1 per cent, one cubic centimetre Formalin hardened pieces of tissue ought to remain in this solution for from four to six days, Muller or bichromate hardened nervous tissue for from 10 to 14 days Fresh tissue placed in the above solution for 48 hours and then immersed in 10 per cent of formalin demonstrated especially the fine fibres of the outermost layer of the cortex The penetration being completed the block was then embedded in paraffin and cut After removal of the paraffin from the sections differentiation was carried out by means of permanganate of potash, 1½ per cent and oxalic acid 1 per cent, except in bichromate hardened tissue the sections in this case being mounted after the paraffin had been dissolved out by xylol *Dr Orr* specially recommended the acetic osmic acid solution on account of the certainty with which it stained the fine medullated fibres of the brain and also on account of its superior penetrating power over Marchi's fluid in Muller and bichromate hardened nervous tissues The communication was illustrated by a series of lantern slides

The following card specimens were exhibited —

Dr ASHBY (1) Congenital Syphilitic Cirrhosis of the

Liver; and (2) Fractured Humeri from a child the subject of Scurvy-Rickets.

Dr. F. O. Moore: Some Morbid Infiltrations.

Mr. Westmacott: A series of models illustrating the effect of Nasal Obstruction on the Hard Palate.

LIVERPOOL MEDICAL INSTITUTION.

"*Bronchiolectasis.*"—*Multiple Rodent Ulcer.*—*Exhibition of Specimen.*

A meeting of the Pathological and Microscopical Section of this society was held on March 16th, Mr. F. T. Paul being in the chair.

Dr. R. Buchanan read a paper on "Bronchiolectasis." It was based on a case occurring in a boy, aged five and a half years, who died after several weeks' illness from an affection of the lungs believed during life to have been tuberculosis. At the necropsy no tubercle was found in any organ. The lungs had a "honeycomb" appearance, being riddled with minute holes averaging one-sixteenth of an inch in diameter. Dr. Buchanan then described minutely the pathology of his specimen and gave a *résumé* of the cases which had been described by other observers. His case seemed to show that the cavities were not true dilatations of bronchioles but rather vomical, due to breaking down of broncho-pneumonic foci and enlargement by ulceration. He also suggested the possibility that cases of this sort which were not fatal might be a connecting link between the catarrhal pneumonia of childhood and the bronchiectasis of later life or the non-tuberculous forms of fibroid lung. He suggested the term "ulcerative broncho-pneumonia" as preferable to "bronchiolectasis." The paper was well illustrated by microscopic specimens and lantern slides.—Dr. Barr argued that such cases were pyæmic, the cavities being originally embolic abscesses and not primarily within the air tubes. He described a case which he considered similar to Dr. Buchanan's and which was purely pyæmic, complicating a wound of the leg.—Dr. Warrington also remarked on the paper and Dr. Buchanan replied.

Mr. Paul read a note on Multiple Rodent Ulcer. He described three cases in which more tumours than one were present. In the first two the primary disease was situated on the nose and forehead respectively and in each had existed for nearly 20 years before secondary infection occurred. The secondary affection in both was in the submaxillary region, in the nose case on both sides, in the forehead case on one side only. In the third case there were three growths, all primary, one on the nose, one over the right external angular process, and one over the right mastoid. Microscopical examination of these showed that the first was a typical rodent ulcer, the second a beautifully distinct tubular adenoid carcinoma, while the third was a squamous-celled carcinoma. The note was illustrated by microscopic specimens and micrographic lantern transparencies.

Dr. W. T. Allen showed an exceedingly marked specimen of Fatty Degeneration of the Kidney.

Mr. C. G. Lee showed: 1. An Eye the Subject of Calcareous (or Osseous) Degeneration of the Choroid. It was removed from a man, aged 44 years, on account of trouble in the other eye. It had been blind for 40 years from a wound with a penknife. Mr. Lee thought that this and another case which he published some years ago supported the view that sympathetic ophthalmitis might arise from ciliary irritation without the aid of micro-organisms. He thought his case argued strongly against evisceration with implantation of glass globes. 2. An Eye removed from a child exhibiting Suppurative Choroiditis.

Mr. Douglas Crawford showed: 1. A Cyst removed from the Anterior Vaginal Wall of a woman, aged 27 years. 2. An Extra-uterine Gestation which had ruptured into the broad ligament. The last confinement was 19 years ago, since which there had been no pregnancy until this occurred. Besides the presence of the tumour the symptoms were slight. At the operation a large mass of clot was evacuated and the fœtus was from three to four months old and much macerated. No placenta or cord could be found.

Dr. Alexander showed a Hydrocephalic Brain.

Dr. G. G. Stopford Taylor showed a Squamous-celled Melanotic Carcinoma originating in a mole. The pigment was chiefly contained within the epithelial cells.

Mr. Hawkins-Ambler showed (1) the Appendages from a case of Pyosalpinx; and (2) a Microscopic Specimen of a Simple Papilloma removed from the labium minus of a child, aged six years.

Dr. J. Wiglesworth showed: 1. A specimen of Stenosis of the Ileum caused by a Healing Tuberculous Ulcer. It was obtained from the body of a woman, aged 44 years. The constriction would only admit the tip of the little finger and was situated a foot and a half above the ileo-cæcal valve. Below the stricture were several other tuberculous ulcers and the lungs were also affected. 2. A kidney with two perfectly distinct ureters.

Mr. W. B. Bennett showed an excellent specimen of "Madura Foot" well exhibiting the inter-communicating cysts and sinuses filled with dark granular material.

Dr. Warrington showed some Microscopic Specimens and Drawings from a case of Caries of the Spinal Column in which the cord above the lesion showed some marked and interesting ascending degenerations.

The specimens were discussed by Mr. Paul, Mr. George Hamilton, Dr. Robert Hamilton, Mr. Bickerton, Dr. Bennett, Mr. Lee, and Dr. Wiglesworth.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of State Medicine.

Tuberculosis.

A meeting of this section was held on Feb. 17th, Dr. H. C. Tweedy, the President, being in the chair.

Dr. Grimshaw read a paper on the Prevalence of Tuberculosis in Ireland and the Measures necessary for its Prevention. He reviewed the principal statistics of tuberculosis, and especially of phthisis mortality in Ireland, the analysis being mainly founded on a table of the deaths from tuberculosis in children under five years of age and of phthisis at the various ages of active life from 15 to 45 years in town and country districts. During the three years dealt with in the table—1895, 1896, and 1897—the average annual death-rate from all causes for Ireland was 17·3 per 1000; the rate for the town districts (that is towns with a population of 10,000 and upwards) was 25·4, and for the rest of Ireland 15·2. For Ireland the death-rate from all tuberculous diseases, exclusive of phthisis, was 0·7 per 1000; for country districts 0·4, for town districts 1·5, or nearly four times the latter rate. For phthisis alone the rates were for Ireland 2·0; for country districts 1·7, for town districts 3·3, or nearly double the usual rate. Taking all forms of tuberculous disease the rate for Ireland was 2·7; for country districts the rate was 2·1, for town districts 4·8, or more than double. Phthisis alone caused 11·7 per cent. of all the deaths in Ireland during the period under consideration, the percentage for the districts with towns of over 20,000 population being 13·3, for those with towns of 10,000 inhabitants and upwards 13·2 or slightly less, as compared with 11·1 per cent. for the rest of Ireland. The proportion of deaths from phthisis to total deaths is therefore very high even in the country districts of Ireland. The age at which phthisis causes the greatest proportion of the total mortality in Ireland is from 15 to 25 years, and the percentage of deaths to total deaths during this period is 44·6 per cent. in Dublin, 55·4 per cent. in Belfast, 54·4 per cent. in Cork, 56·3 per cent. in Limerick, 52·5 per cent. in Londonderry, and no less than 58·6 per cent. in Waterford.

Dr. Martley read a short paper on the Death-rate from Tuberculosis, as exemplified in the male population of England, for the five years 1891–95.

Dr. McWeeney read a paper on the Bacteriological Aspect of Tuberculosis. With regard to the morphology of the tubercle fungus he had never failed to detect genuinely ramified forms in sputum whenever he had leisure to seek them out. The type of ramification was that of the genus cladothrix, and from the researches of Firchel, Coffin Jones, Hazo Bruns, and Ledoux-Lebard, there could be no doubt of the biological affinity of the tubercle fungus with streptothrix and actinomyces. The staining reaction long considered to be peculiar to the tubercle and leprosy bacilli was now known to be shared by a smegma bacillus, and by the pseudo-tubercle bacilli isolated by Mockler and others from cowdung, by Mockler from the leaves of timothy grass near the Görbersdorf Sanatorium, and by Rabinowitsch from butter. The cause of the staining reaction was the presence in the sheath of the bacillus of a peculiar wax, as was shown last year by Aronson This underwent gradual extraction by alcohol and ether, with the result that the bacilli lost their specific staining reaction The discovery by Ledoux Lebard of the bacillus of fish tuberculosis and the recently demonstrated inoculability of poikilothermous animals with a variety of a bacillus capable of thriving at ordinary temperatures were *important recent additions to our knowledge*

Dr P. LETTERS read a paper on the Distribution of Tuberculosis in Ireland By statistical tables he sought to prove that tuberculous disease throughout Ireland—tabes mesenterica and tuberculous meningitis more so than phthisis—was regulated almost exclusively by aggregation of population Small towns and villages bred tuberculosis largely. The most tuberculous region in Ireland extended along the eastern and south eastern seaboard and was mapped out by the counties of Antrim, Down, Dublin Wexford, and Waterford The least tuberculosis was found *in a compact region in the north west comprising* the five contiguous counties of Donegal, Leitrim, Cavan, Fermanagh and Longford These two regions contain respectively a high and a low percentage of urban population

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SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on March 10th, Dr J Gwynn, President, being in the chair —Dr A Ashby read a paper on the Duties of Medical Officers of Health in Relation to Small pox in view of the Alterations in the Law of Vaccination The hope expressed by those who had forced this "tremendous experiment' on the country for five years that it would disarm opposition to vaccination, had not been fulfilled and in many cases vaccination had been practically abolished He did not deny that there were a few improvements in the law, but Clause 3 which imposed on the *magistrate the invidious duty of deciding whether objec*tons were "conscientious' was absurd Again, it seemed anomalous that a matter closely connected with the public health should be committed to the Poor law and not to the sanitary authorities, though it would be inexpedient at the present time to effect a change which might lead to the election of these authorities being dependent on their opposition to vaccination But medical officers of health should endeavour to secure isolation accommodation where such had been deficient or wholly wanting, but elsewhere should small pox break out with a severity previously unknown and the accommodation which had sufficed in the past prove inadequate the people must pay in hasty and therefore costly provision for their neglect of the easier and inexpensive protection of vaccination Adults might be left to suffer for their own folly, but the infants should not be sacrificed to that of their parents and *in the absence of compulsion* organisation *should* be opposed to organisation, branches of the Jenner Society should be established everywhere especially where the *Anti vaccination League was at work*, and the *public* educated by lectures, the distribution of literature, &c The coöperation of men and women of all classes should be encouraged, but the medical officer of health would do well to avoid involving himself in heated newspaper controversies —Mr Beale Collins said that in his district only 12 objectors had come forward in a population of 35 000 and vaccinations had increased since the passing of the Act — Dr Woodforde told how the improvised accommodation required by an outbreak of 50 cases in a rural district cost £1500 —Dr E Groves found great difficulty in getting a site for a tent and complained that the Local Government Board would not allow the reception of even real paupers in the workhouse infirmary —Dr F T Bond felt that little could be done *save during an epidemic At Gloucester* the sanitary authority was now mostly composed of anti vaccinationists, who, though professing to rely on isolation had actually reduced the accommodation from 48 to 16 beds in an iron building with no road or proper arrangements —Dr Seaton found hospital provision no less *unpopular* than vaccination, and the *Local Government* Board instead of compelling the authorities to provide it placed obstacles in the way of such as were willing Guildford had to fight from court to court for the erection of a hospital in one of the loneliest spots in the county, the opposition coming from a single resident at a distance of two miles —Dr McVail considered it impossible to define sufficient accommodation, for where all were vaccinated amount would suffice There should be a permanent and complete administrative block with ample space and facilities for the erection of temporary buildings to meet the requirements of the occasion —Dr Sykes thought that the public being unable to appreciate the differences of degree in vaccinations and of type in small pox it would be well to confine oneself to crude statistics in discussions of the subject He felt very strongly that the whole system of certification of vacci*nation as well as of the causes of all deaths needed revision* The mere fact should be reported by the friends, but the certificate describing the result of a vaccination or the cause of a death should be, as in the notification of infectious diseases, forwarded by the medical attendant to the respective authorities

EPIDEMIOLOGICAL SOCIETY.—A meeting of this society was held on March 17th, Dr Franklin Parsons President, being in the chair —Mr W H Crosse, consulting medical officer of the Royal Niger Company, read a paper on Blackwater Fever, or Hæmoglobinuric Fever the first instalment of which we publish on page 821 —Dr Manson said that he believed in the daily use of from five to 10 grains of quinine as a prophylactic, and mentioned the case of a missionary who during a residence on the west coast of 14 years had neglected this precaution on three occasions only and each time had an attack of fever, *from* which he had otherwise enjoyed exemption Koch had called attention to the fact that in East Africa negroes coming from the interior who lived with and like the Europeans suffered to some extent and that generally the natives were immune to the fevers of their own district but not to those of others It should be remembered *that the presence of a parasite did not* prove it to be the cause of a disease, plasmodia were often found in persons suffering from typhoid fever since malaria predisposed to though it had no connexion with, enteric fever In China he had seen many cases of severe malaria and extreme cachexia but never accompanied by black water Either some other factor was required or the plasmodia acquired different properties according as they had passed through the bodies of one or other species of mosquito He might mention the case of a man who during a febrile attack after his return home passed black urine but the colour was shown to be produced by an enormous excretion of indican, neither hæmoglobin nor albumin being present —Dr Harford Battersby enjoined caution in diagnosis, having himself observed epidemics in which the urine was almost black from bile pigments and blood, but which was not hæmoglobinuric, that in which Bishop *and Mrs Hill died* with about 50 *other* Europeans was true yellow fever The paludal fevers of Africa were far less distinctly remittent than those of other regions Blackwater fever was certainly on the increase but seemed invariably to follow chills indiscretions, or exposure to freshly turned up soil Vomiting was not a constant symptom, he had not vomited in any of his three attacks though he *had melæna* — Mr Craister had taken quinine daily during his five years on the Niger and he had only three very slight attacks of fever and none of blackwater *fever* He had not lost one of the 11 cases of hæmoglobinuric fever in which he had given quinine from the first, or saved one of the six or seven in which he could not, they having been attacked while away up the river — Dr Washbourn from his study of paroxysmal and experimentally induced hæmoglobinuria could entirely confirm Mr Crosse s explanation of the phenomenon At first the liver transformed the hæmoglobin into bile pigment, but when the *quantity* exceeded the power of the liver the excess passed out by the kidney —Mr Pakes referred to the Texas fever among cattle which was attended with hæmoglobinuria and perhaps also hæmaturia, and in which large doses of quinine were beneficial The action of habitual small doses of quinine was not exerted on the plasmodia so long as they were enclosed *within the* blood disc, but when having sporulated and burst its walls the numerous progeny of the original plasmodium escaped, they were attacked and killed before they could invade other discs Already seven varieties of plasmodia had been distinguished by Italian and German investigators and if only one or two of these had the power of inducing hæmoglobinuria *their geographical* distribution, independent of the malignancy of local malarial fever, was easily explained

OXFORD MEDICAL SOCIETY.—An ordinary clinical meeting of this society was held on March 11th in the Radcliffe Infirmary, Mr H P Symonds, President, being in the chair —Dr Ritchie read notes of a case of F rhage and showed the brain which hæmorrhage on the surface of the pons; on section a very extensive hæmorrhage was found ploughing up the whole substance of the pons. The cerebral arteries were markedly atheromatous. The patient, a woman, aged 48 years, had attended a hospital as an out-patient to be treated for a skin affection when she suddenly became helpless with some spasmodic twitching of the left eye. She rapidly became unconscious and sank four hours after her admission. The pupils were noticeably contracted before death and the temperature rose to 105° F. There was no atheroma of the heart or large vessels corresponding to that found in the cerebral arteries, but there was some interstitial change in the kidneys, with considerable periarteritis. No history of syphilis was obtained.—Dr. Turrell read notes of a case of Placenta Succenturiata. A woman, a primipara, fell out of a dogcart when six months pregnant. She was delivered at full term, the labour being natural and easy; the placenta was complete and of normal size. 24 hours after, the patient being in great pain, the uterus was found to be distended with clots. These were expressed, but the hæmorrhage continuing the uterus was explored and two pieces of placenta of the size and shape of bananas were removed. The patient remained very collapsed and bloodless, with a pulse of 150 and a temperature of 102° F. A douche was given which was followed by a rigor. On the following day, the discharge being a little offensive, the uterus was explored under an anæsthetic and a few shreds were removed from the fundal region. A douche was administered which was again followed by a rigor. These were the only rigors which occurred during the progress of the case and on each occasion followed the douching. The temperature fluctuated above normal for a fortnight, but the patient ultimately made a good recovery. Dr. Turrell drew attention to the fall which the patient had during pregnancy, as from what was known of the etiology of placenta succenturiata it was probable that this gave rise to hæmorrhage into the placental tissue with destruction of some of the villi. Dr. Brooks suggested that the rigors were due to absorption of perchloride of mercury, but Dr. Turrell on the second occasion had used an iodine lotion. He regarded it as a reflex phenomenon.—Mr. Symonds read notes of two cases of Appendicitis in which he had successfully operated and showed the patients. One of them, a woman, aged 22 years, had had three or four mild recurrent attacks before admission and before operation there was distinct tenderness at McBurney's point. The appendix was slightly adherent to surrounding structures and was much elongated, passing up under and adhering to the under surface of the liver. It was removed by circular amputation, the peritoneal surfaces being sutured with silk. Recovery was uneventful. The second case was also one of mild recurrent appendicitis in a woman, aged 23 years; the appendix was inflamed and adherent to surrounding tissues and was removed in a way similar to the above; the patient made a good recovery.—Dr. Duigan showed a specimen of Vesical Calculus weighing four ounces which was found post mortem in the bladder of a young man who had refused all surgical treatment.—Dr. Elsmore showed a Skiagram of a Broken Needle embedded in the Wrist.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 2nd, Dr. Alfred Robinson, President, being in the chair.—Dr. Keeling showed the specimens removed and gave details in the following cases:—1. Cystic Myoma of the Uterus successfully removed by abdominal section in an unmarried woman, the uterine wound being treated intra-peritoneally. 2. Dermoid Cyst and Ovary. The patient was single; recovery was good. 3. Broad Ligament Cyst removed from a married woman, aged 30 years. The patient was sterile and had been married 10 years; recovery was excellent. 4. Menstrual Fluid removed in a case of Imperforate Hymen. The patient, otherwise a healthy well-grown girl, was 17 years of age and had never menstruated. 5. Cancerous Uterus removed by vaginal hysterectomy from a married multipara, aged 42 years. Recovery had been excellent with the serious exception that a urinary fistula had resulted probably from the bladder having been caught by one of the forceps used in securing the broad ligaments.—A discussion followed on the Operative Treatment of Fibromyomata and Cancer of the Uterus in which Dr. J. W. Martin, Mr. Richard Favell, Dr. Andrew Walker, Dr. Sinclair White, Mr. Pye-Smith, and Mr Sidney Barber took part.—Dr. Cairns read notes and showed the specimen of a case of Ectopic Gestation diagnosed by Dr. Andrew Walker and himself and successfully operated on by Dr. Sinclair White.—Dr. Arthur Hall showed the following specimens:—1. Heart with Stenosis of the Pulmonary Artery, Imperfect Ventricular Septum, and Patent Ductus Arteriosus, from a boy, aged 11 years, who died from pneumonia. The cyanosis was not extreme except during the last few days of life. 2. Liver with Gall-stones in the Gall-bladder, an Impacted Stone in the Ductus Choledochus, and several Stones in the Intrahepatic Bile-ducts which were largely dilated. In the left lobe were multiple abscesses secondary to well-marked cholangitis. At the left extremity of the liver there was a large subphrenic abscess which seemed to be secondary to the suppuration in the left lobe. 3. Carcinoma of the Bodies of the Seventh Cervical and Upper Three Dorsal Vertebræ—part of a widely-distributed cancer the primary seat of which was not discovered. The bodies of the vertebræ had given way and produced transverse myelitis which was the immediate cause of death. 4. Typhoid Ulcers preserved by Kaiserling's method with formalin and glycerine.—Dr. George Wilkinson gave an account of a case of Subphrenic Abscess operated upon by him. The patient, a man, aged 47 years, was admitted into hospital very ill with a prominent, tense, fluctuating swelling in the epigastric region. Hepatic abscess was diagnosed, the swelling was incised, and two pints of pus and hydatid fluid were evacuated. The patient complained of much pain in the left side when being lifted on to the operating-table. Next day there were signs of a subphrenic collection of fluid in the left side. This was evacuated and drained after resection of a portion of the seventh rib in the anterior axillary line and suture of the costal pleura to the diaphragm. Drainage was continued for two months after which the cavity healed and the patient was discharged.

CHELSEA CLINICAL SOCIETY.—A meeting of this society was held on March 7th in the theatre of the Jenner Institute, Mr. J. Foster Palmer, President, being in the chair.—The President, in a few opening remarks, offered the thanks of the society to Dr. Allan Macfadyen for granting them the use of the theatre. Referring to the subject of the lecture they were about to hear he said that though the society was a clinical society, yet that bacteriology was the handmaid of clinicology. He then called upon Dr. Macfadyen for his lecture upon Enteric Fever and Diphtheria.—Dr. Macfadyen, in the course of his lecture, dealt mainly with the bacteriological aspects of these diseases. The life-history of the typhoid fever bacillus was discussed in its different phases and cultures of the organisms on various soils were shown. The spleen and urine were stated to be the most convenient sources of pure cultures of the bacillus, the search for it in the dejecta being attended with considerable difficulty. The Elsner potato-gelatin soil had not proved so successful a means of isolating the bacillus from the stools as had originally been anticipated. The means adopted for differentiating between such closely allied organisms as the typhoid and colon bacillus were explained and illustrated. The sources of infection were next dealt with and the pathological lesions found in the disease, whether due to primary or to secondary infections, were explained. The bacillus had undoubtedly pyogenic properties. Pfeiffer's phenomenon and Gruber's reaction were discussed and the great value of Widal's test in doubtful cases of the disease was emphasised. All these reactions were stated to be of a specific character and for the successful employment of the Widal test a good strain of the typhoid bacillus was said to be essential. The difficulty experienced in obtaining any specific toxins from cultures of the organism had up to the present prevented the preparation of an antitoxin serum of any value for treatment; on the other hand, the anti-typhoid "vaccines" proposed might be of value as preventive agents. The salient points connected with the bacteriology of diphtheria were then referred to. The antitoxin treatment was discussed and the importance of an early bacteriological diagnosis and the immediate use of the serum treatment were pointed out. Through improved methods of preparation the amount of serum necessary for injection had been greatly reduced and thereby the danger of any unpleasant sequelæ reduced to a minimum. The methods of standardising the serum were explained and it was stated that it was an erroneous impression that the antitoxic substances had any poisonous or deleterious action on the system. The lecture concluded with a lantern demonstration and an exhibition of a number of microscopical specimens in illustration of the subject matter of the paper.—A discussion followed in which Mr. Lennox Browne, Dr. C. J. Harrison, Dr. Woulfe Flanagan, Mr. J. Marsh, and Mr. E. Vinrace took part.

Reviews and Notices of Books.

The Ophthalmology (Liber de Oculo) of Petrus Hispanus (Peter of Lisbon), subsequently Pope John XXI. The Latin text edited and translated into German by Dr. S. M. BERGER. Munich: J. F. Lehmann. 1899. Pp. 135. Price 3*s.*

THE editor of this interesting little volume states that the original only exists in manuscript and that in printing the text and translation he has availed himself of opportunities of collating the copy in the Royal Bavarian Library in Munich with those in the Florentine, Parisian, and Roman libraries. Petrus Hispanus was the son of a physician named Julian and acquiring a thorough knowledge of medicine practised for some time as a physician with great success. He afterwards entered holy orders, became Archbishop of Braga in Portugal, was made Cardinal in 1273, and on the death of Adrian V. he was elected to the Pontifical dignity on Sept. 13th, 1276, as Joannes XX., though in his epitaph at Viterbo he is called Joannes XXI. He died in 1277. He wrote several works on medicine. The present one on ophthalmology is referred to by one of the fathers of French surgery, Guy de Chauliac, who wrote in the early part of the fourteenth century. Petrus Hispanus commences with sufficient lowliness by stating that he is the humblest of physicians. He describes the eye as a round, noble, and brilliant organ composed of seven membranes and three humours and his description of these is comprised in a very few lines. The physiology of vision is in accordance with the imperfect physical knowledge of the time and vision is held to be something streaming from the eye. He gives a curious list of the diseases of the eye—viz., inflammation, hydrophthalmus, hard swelling, itching membranes, leucoma, cancer, swelling, water, illusions of vision, bursting of the globe, stony tumour, adhesion of the lids, eversion of the lids, lagophthalmus, distichiasis, phtheiriasis, hordeolum, inversion of the lashes, eczema, herpes, glandular tumour, loss of eyebrows, golden yellow tumour, and chalazion. He asks, What is "obtalmia"? and answers that it is an inflammation with generation of heat of the conjunctiva and gives its etymology as *ob*, against, and *talmon*, eye; hence something acting injuriously on that organ. The treatment recommended for "obtalmia" is rest, sleeping with the head elevated in a darkened room, refraining from conversation, coitus, and exposure to smoke and dust, abstinence from green vegetables, garlic and peppery diet, quarrelling and disputing, and from roast and baked food. When it is dependent on conditions of the blood venesection and the administration of Cassia fistula and Prunus damascena internally are recommended, whilst decoction of Trigonella fœnum græcum and violet leaves should be applied topically. Local applications, he observes, should be frequently renewed, as he knew of a case where a bandage was kept on for three days and a wound of the eye from a blow suppurated. Together with many drugs still in use, such as mallow, valerian, aloes, myrrh, squills, and cumin, several curious remedies are ordered, as the blood of a goat, the lungs of the goat or ox, the blood of a bat, woman's milk, and oil in which lizards have been thrice boiled, and he vaunts as a special wonder-working secret a substance which will cause the physician, who can and will make it, to be called not a physician but a prophet. This is a mixture of silver filings with those of copper, iron, lead, steel and gold, and storax, the proportions of which, he rather prudently adds, may be modified according to the finances of the patient. The mixture of filings and storax is to be placed for a day in the urine of a boy, on the second day in warm white wine, on the third day in fennel juice, on the fourth in white of egg, on the fifth in the milk of a woman brought to bed of a boy, on the sixth in red wine, on the seventh in the whites of seven eggs all of which are to be poured into a retort, the fluid distilled, and the distillate kept in a gold or silver cup. The prescription is to be kept secret, for its value is simply inestimable. Elsewhere the use of the patient's own urine and saliva and even of powdered *fæces of the lizard is* recommended.

The editing of the volume has been excellently accomplished. The upper half of each page is occupied with the original manuscript, the lower half gives a German translation with the Latin names of the plants specified, and there is a capital bibliography. The book will be read with interest by all who have a taste for archæology.

Squire's Companion to the British Pharmacopœia. Seventeenth edition. Revised by PETER WYATT SQUIRE, F.L.S., F.C.S. London: J. & A. Churchill. 1899. Price 12*s.* 6*d.*

THE new edition of this well-known book has not been produced with unseemly haste. It is nearly a year since the new Pharmacopœia was rendered accessible to all who wished to consult it prior to actual publication. The changes *in description, in* processes, and *in dosage* were so numerous and so important that the labour of incorporating them in the Companion and of producing a commentary must have been considerable. The task of incorporation has been very thoroughly performed and we congratulate the author upon the fact. So far as we have been able to test no statement of fact in the body of the Pharmacopœia has been omitted from the Companion. If the running commentary is less forcible than usual this is to be reckoned to the credit of the Pharmacopœia. Independently of his own experiments, the author has included numerous references to criticisms and suggestions which have appeared in the chemical and pharmaceutical journals, and in some cases these criticisms contradict each other. But it is none the less valuable to have them all recorded in one volume. As in former editions this volume contains much valuable information concerning remedies included in foreign pharmacopœias, *while the newest candidates for favour* receive adequate recognition. The inclusion of therapeutic references and of prescribing notes will prove serviceable to practitioners, since the best modes of prescribing and dispensing so often need a helping hand. A new section on Therapeutic Agents of Bacterial Origin has been written by Dr. R. T. Hewlett and contains indications for dosage, together with numerous references to recent literature. The volume as a whole not only contains a vast amount of interest for prescribers and dispensers, but it also supplies innumerable references to sources of detailed information. It is obviously the outcome of care and knowledge, and consequently earns a position of authority.

The Blood: How to Examine and Diagnose its Diseases. By ALFRED C. COLES, M.D. Edin. With six Coloured Plates. London: J. & A. Churchill. 1898. Pp. 260.

SO much advance has been made in recent years in our knowledge of the condition of the blood in disease that a small work on the subject dealing with it in a manner suitable for the clinician and not for the pathological histologist only is certain to be welcomed. Such a want Dr. Coles has attempted to supply, and all who read the book must feel that he has admirably succeeded in his endeavours. The methods of examining the blood are first detailed and the processes described are easy to follow and do not require a very complicated set of apparatus.

The general morphology of the blood is next considered. Dr. Coles possesses the happy knack of expressing what he means in simple words and without the introduction of unnecessarily numerous new scientific terms. Unfortunately, the many investigators who have made a study of the corpuscular elements of the blood have not adopted any uniform nomenclature and consequently a large number of terms have found their way into medical literature all designating the same thing. Thus the leucocytes most commonly met with in the blood have been variously named multinucleated leucocytes, neutrophile cells, or leucocytes with granules (Ehrlich); finely granular oxyphile or acidophile cells (Kanthack); the oxyphile cells (Gulland); microphagocytes (Metchnikoff); cells with finely granular protoplasm (Max Schultze); and leucocytes of the second variety (Hayem). This confusion is to be regretted, but Dr. Coles has collected all the synonyms and placed them at the head of each section so that reference is materially facilitated. The part of the book, however, which will be most thoroughly appreciated is that devoted to the Pathology of the Blood. The various diseases characterised by changes in the blood are described seriatim. This gives a much better idea of the value of an examination of the blood than if the usual plan had been adopted of mentioning the diseases in which certain corpuscular changes are found under the description of these changes. Primary or Idiopathic Anæmia is first considered. Under this heading we find a number of important pathological conditions, such as progressive pernicious anæmia (the differential diagnosis being especially well studied), leucocythæmia, lymphatic leucocythæmia, Hodgkin's disease, and splenic anæmia. This section is concluded with a differential chart of the most important forms of anæmia. Next we find described Secondary or Symptomatic Anæmia, such as that due to malignant disease and hæmorrhage.

Malarial Parasites naturally receive due consideration and then follow a series of sections on the Blood in Acute Diseases, such as pneumonia and typhoid fever. The chapter on the Condition of the Blood in Various General Diseases, such as diabetes, gout, myxœdema, &c., also contains much useful information.

The illustrations are nearly all original and are beautifully executed and reproduced. The whole work is very readable and will doubtless receive the appreciation which it deserves.

LIBRARY TABLE.

Notes on Essential Oils. By T. H. W. IDRIS, F.C.S. London and Bristol: Geo. Du Boistel and Co. Pp. 193. 1898.—The essential oils are complex compounds and their chemistry is by no means clear at the present time. The printed information, however, on the subject is somewhat widely scattered through scientific literature and Mr. Idris is entitled to a word of thanks for placing in collective form all that is known of the composition, chemistry, and analysis of these very interesting bodies. It seems probable that as our knowledge of the composition and constitution of essential oils increases we shall be able to anticipate nature and to construct them by a synthetic process. It will, indeed, be a chemical triumph if we are able at length to construct oil of roses or of lavender from turpentine, yet the proximate composition of these bodies is very similar. This little book is an interesting and valuable contribution on the subject and will prove a very handy source of reference. In an appendix a useful table of constants is given.

Physical Chemistry for Beginners. By Dr. C. M. VAN DEVENTER, with a Preface by J. H. VAN 'T HOFF. Translated by R. A. LEHFELDT, D.Sc. London: Edward Arnold. Pp. 146. Price 2*s.* 6*d.*—The study of chemico-physics is equal in importance to the study of pure chemistry itself. Indeed, so far has our knowledge of the constitution and structure of bodies been advanced that but a poor idea of the science would be gained without understanding the physical principles underlying this knowledge. The application of physical methods to the determination of molecular weight and the number of atoms in the molecule affords evidence on this head. Again, by studying the nature of that interesting and peculiar phenomenon of solution further light has been thrown on the architecture of molecules. This book, which is translated from the Dutch, fills a distinct gap. There have, of course, been published large volumes on the subject of physical chemistry—as, for instance, those of Ostwald and Victor Meyer—but these are much too advanced for those who have simply skimmed through mathematics and physics. At the same time the treatment of this section of the subject can scarcely be adequately done in the ordinary chemical text-book. The book, in fact, does not assume that the reader is very deeply acquainted with certain mathematical principles. And thus it has been written to meet the needs of students of medicine and pharmacy as well as those of chemists. It should well fill this excellent educational purpose.

Testing Milk and its Products. By E. H. FARRINGTON and F. W. WOLL, of the University of Wisconsin. Fourth Edition, Revised and Enlarged. Madison, Wis.: Mendoza Book Co. 1899. Pp. 236. Price $1.—This is a manual intended for dairy students, creamery and cheese-factory operators, food chemists, and dairy-farmers. It deals most exhaustively with the chemical analysis of milk, butter, and cheese. It omits any reference to the bacteriological diagnosis of dairy products. A good deal of space is devoted to praising the process known as the Babcock test for milk and the frontispiece is the portrait of the inventor of this test which essentially depends upon the separation of fat after treating the milk with certain reagents in a centrifugal machine. The centrifugal process certainly facilitates the accurate estimation of the fat in milk. It can be conducted by any ordinary individual without any special analytical knowledge. The book is sure to be in demand by those engaged in the industry.

The Baths of Mondariz.—We have received an illustrated guide to, and description of, the mineral waters of Mondariz. This is a popular health resort situated in Galicia. Perhaps the best idea of its position will be given to our readers if we say that it is not very far from Santiago. The bathing establishment, which seems very complete, is owned by two brothers named Peinador and the waters are of the alkaline carbonate type containing also a little iron. Good effects are said to have been obtained in lithæmia and sundry skin affections. Spain is an almost unknown land to the majority of English people, but even apart from its wealth of mineral water it is a very delightful country to visit. Those who love art, history, architecture, or scenery, to say nothing of courtesy and cheapness, will find their desire fulfilled in Spain.

JOURNALS AND REVIEWS.

Edinburgh Medical Journal.—The opening article of the March number is on the Treatment of *Ozæna*, with special reference to cupric electrolysis. It is written by Dr. P. McBride who states that Garrigou-Désarènes is said to have introduced *the method in question.* In 1895 the Society of

Belgian Laryngologists and Otologists appointed a committee of investigation. Dr. McBride thinks that cupric electrolysis has not yet been touched upon in English literature. He began to experiment with it in 1897 and now describes eight cases occurring among out-patients. He employed a current varying in strength from three to 10 milliampères, rarely exceeding the latter. Cocaine was used in most instances, if not in all, and after cleansing the nostrils the copper needle attached to the positive pole was inserted into the inferior or middle turbinated bone—sometimes into the tissues lining the middle meatus, while the platinum or steel needle was passed into the septum. Each sitting lasted about 10 minutes. Four of the eight patients were practically cured for long periods extending to 18 months. Dr. E. M. Brockbank writes on the Causation and Rhythm of the Crescendo Murmur of Mitral Stenosis, meaning thereby the murmur usually called presystolic. Altogether there are eight original articles.

Dublin Journal of Medical Science.—The original communications in the March number are on the Prevalence of Tuberculosis in Ireland (by Dr. T. W. Grimshaw, Registrar-General for Ireland), on Mallaranny as a Health Resort (by Dr. F. J. B Quinlan), and a further instalment of the articles on Public Health and Preventable Disease (by Dr. Patrick Letters).

Analytical Records

FROM

THE LANCET LABORATORY.

(1) EXONIA MALT EXTRACT; (2) AMBROSIA; AND (3) AMBROSIA PASTILLES.

(EVANS, GADD AND CO., FORE STREET, EXETER, AND REDCLIFT STREET, BRISTOL.)

WE have noticed these preparations on a previous occasion, but there are some fresh points about them worthy of record. "Exonia" is the comparatively new name of the extract of malt made by this firm. It is exceedingly active amylolytically. It possesses an agreeably malty flavour and is attractively light in colour. The bottle in which this preparation is contained is provided with a cap which represents an arrangement which has long been wanted for the convenience of measuring definite quantities of sticky viscid preparations like malt extract. The cap is provided with a metal slide which when opened allows the extract to escape, while when the cap is smartly shut the flow is neatly cut off and there is no unpleasant dribbling of the liquid down the sides of the bottle. The extract is contained in the "Ambrosia" pastille which consists of a gelatin lozenge possessing a very agreeable flavour of freshly prepared malt. "Ambrosia" is a combination of "Exonia" with Devonshire cream. This forms a perfectly homogeneous mixture in which separate fatty particles cannot be distinguished until water is added. It is a very palatable compound and should possess distinct therapeutic value akin to the similar combinations of active malt extract with cod-liver oil.

TUBORG BEER (BREWED IN DENMARK)

(THE TUBORG LAGER BEER AGENCY, NEWCASTLE-ON-TYNE.)

It was in the Carlsberg laboratories at Copenhagen that Professor Hansen made his important discovery of cultivating single species of yeast so that by employing a pure culture in the brewing of beer a sound and always uniform product could be ensured. The application of this discovery to the brewing of beer on the continent accounts largely for the rapid advances and improvements made in the brewing processes there. The beers under analysis are evidence of the importance of this discovery and of the excellence of the results obtained by its application. The analyses of the specimens submitted to us were as follows:—Wiener-öl beer: malt extractives, 3·78 per cent.; mineral matter, 0·21 per cent.; alcohol, by weight 4·00 per cent., by volume 5·00 per cent., equal to proof spirit 8·77 per cent. Lager beer: malt extractives, 4·26 per cent.; mineral matter, 0·28 per cent.; alcohol, by weight 4·00 per cent., by volume 5·00 per cent., equal to proof spirit 8·77 per cent. Tuborg beer for export: malt extractives, 3·35 per cent.; mineral matter, 0·14 per cent.; alcohol, by weight 5·87 per cent., by volume 7·32 per cent., equal to proof spirit 12·84 per cent. We need make but little comment on these results. The specimens were quite bright and in sound condition. They are desirably light in character, showing a low alcoholic strength, and the taste was delicately bitter. The absence of objectionable preservatives and of bitter substitutes was ascertained.

ERASMIC SOAP.

(J. CROSFIELD AND SONS, LTD., WARRINGTON.)

A very delicate test showed that the materials in this soap are well balanced. There was no trace of free alkali. The soap is well milled and desiccated and yielded a full creamy lather. It is made delicately fragrant with essential oils. The soap basis is excellent and evidently composed of the choicest materials.

ST. LEGER MINERAL WATER (POUGUES)

(AGENTS: VOIGT, BARTON AND CO., 25, GREAT TOWER STREET, E.C.)

This water drawn from the St. Léger spring in the province of Loire, France, holds the reputation of affording benefit in urinary diseases as well as in gastro-intestinal dyspepsia. Pougues is counted amongst the health resorts and spas of Europe. We find that the water is slightly sparkling with an excess of carbonic acid gas. It is practically free from iron. It contains 2·37 grammes per litre of saline constituents, foremost amongst which are sodium carbonate 1·59 grammes, and common salt 0·19 grammes, the difference being made up by lime and magnesium salts. It further contains some sulphate of soda and distinct traces of lithium salts. It is an alkaline carbonated water, sedative and antacid. A course of the waters of the composition just described is well known to give benefit to patients inclined to gastric and urinary disorders.

THYROGLANDIN.

(EVANS, LESCHER AND WEBB, 60, BARTHOLOMEW CLOSE, .C., AND LIVERPOOL.)

Thyroglandin is stated to be prepared by a patented process in such a way that the active principle is presented for administration instead of the simple thyroid gland itself. It is stated that this preparation is of four times the strength of the fresh glands. The dose is from one to five grains and pills are prepared containing one grain of thyroglandin. Thyroglandin itself is in appearance a brownish powder like dried beef meal and possessing a similar smell. It yielded, we found, an important amount of iodine on suitable treatment and extraction. The preparation is an important addition to organotherapy and is calculated to ensure greater uniformity and certainty of action.

FLORIO'S VIRGIN MARSALA.

(FLORIO AND CO., MARSALA, AND SECRETAN, CAMPBELL AND CO., 24, ROOD-LANE, E.C.)

We have received two specimens of this wine for examination. The difference in composition will be seen in the following analyses which we have made. Marsala marked V.: extractives, 6·03 per cent.; mineral matter, 0·47 per cent.; sugar, 3·60 per cent.; tartaric acid, 0·30 per cent.; acetic acid, 0·15 per cent.; alcohol, by weight 14·82 per cent., by volume 18·25 per cent., equal to proof spirit 31·99 per cent. Marsala marked V.V.O: extractives, 6·43 per cent.; mineral matter, 0·38 per cent.; sugar, 4·16 per cent.; tartaric acid, 0·27 per cent.; acetic acid, 0·078 per cent.;

classes who employ domestic servants have been multiplied and that the classes whence they are drawn have become more independent and have a much wider range of choice in selecting an employment than was the case when manufacturing industries, the Post Office and the Telegraphic Department, clerical work and board schools, did not offer occupation to women on such a large scale as they do at present.

An intelligent study of these conditions will do much to enable families and ladies at the head of families to understand the problem of getting and of keeping good servants. It is well within the experience of medical men that the worry connected with servants and with the constant changes of the domestic staff is a fruitful source of much annoyance and even of ailment among housewives. Ours is a profession which has insight into household work and its cares not vouchsafed to men of other callings. It is not, therefore, beyond our province to give a few hints with a medical bearing which may tend to make the wheels of domestic work revolve more smoothly. One thing which must strike most medical practitioners is a disposition to ignore the ailments of servants. This disposition is seen often at the time when the servant is a mere applicant for work. Mistresses who will keenly inquire into the character or temper of a girl will turn a blind eye on her state of health. Domestic servants are probably not much more subject to ailments than other people but it is an unmistakeable fact that they are not without ailments. Their life is not always a healthy one, though it might often be made more so by a little effort on their own part or good nature on the part of their mistresses. The daily routine is apt to be dull and monotonous and it may be very laborious and exhausting. Those who have only to tell a maid to do things which they can easily do themselves are very apt to abuse the relationship and to throw quite an unreasonable amount of work upon their servants. Such evil is often unintentional. It is wrought by want of thought and not by want of heart. But it is wrought all the same and the life of the servant becomes a drudgery with no leisure, no protection, no break. Servants may not be more delicate than others, but as we have said the conditions under which they work are such as to generate moodiness, perhaps ill-health, and sometimes exhaustion and disease. Besides the conditions of work which tend to generate sickness and even disease there are two other points to be taken into account—age and distance from home. A large proportion of servants, in London especially, are at sensitive ages, and a large number are far away from home; they have come from the country and from p[illegible]cial towns, often from Scotland, and easily become [illegible]ick, especially if there should be a lack of sympathy and a failure to make them feel welcome. One of the commonest of ailments in domestic servants is chlorotic anæmia and it is amazing to see how often this condition is allowed to go on without notice and without treatment where the symptoms in a child of the family would quickly command all the resources of medicine. The neglected chlorosis drifts into chronicity with consequent impaired health or reaches a crisis in a gastric hæmorrhage and so commands attention. Short of such extreme cases the health of servant maids is often sapped in a way which impairs their energy and depresses their spirits, but which would admit of complete relief if duly attended to. These are the servants, by the way, who complain of their food. It is the appetite not the food that is generally at fault, for, despite the behaviour of Mrs. Nicholls and Miss Brass, the modern servant is generally well fed—almost invariably much better fed than she ever could have been in her own home.

It will be asked what is the remedy? We have a strong conviction that the remedy lies in a little more sympathy and a little more effort on the part of families to place themselves in imagination in the servants' situation and to remember that they are of our own flesh and blood, as Mr. GLADSTONE said of the unenfranchised voters. In matters of open air and of hours of leisure servants should be treated with consideration. So far from spoiling them we believe that such consideration is appreciated by them and it certainly is necessary if they are to be kept in health. When servants fall off in health, still more if they become really ill, they should receive attention. If necessary they should be made to keep their bed for a day or more. Devices for sparing them unnecessary labour should, then, be multiplied. The absence of such ingenuity in kind and well-to-do families is often surprising. An anæmic girl will be sent up long flights of stairs on trivial errands, or a willing maid will be made to do nursing duty till her feet swell and she is on the point of breaking down. It is, we believe, no part of a master's liability to provide medical attention for his domestic servants. All the same, or, rather, all the more, it is well to provide it for them. Servants often prefer their own medical man, but few of them are insensible to the kindness of a mistress who will offer her personal attention together with the advice of the medical man whom she consults for her own ailments and those of her children. These may seem to be partial and inadequate suggestions for the solution of a great social problem, but we do not profess to speak except from a medical point of view. We believe that the alternative employments which draw girls from domestic service would not be so effective if good mistresses determined to face the problem and to make their servants feel that they are in a home where their health and their comfort are considered in a kindly and generous spirit.

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IN THE LANCET of March 18th we dealt with the action which the Government have decided to take with a view to the prevention of tuberculosis in man in so far as milk is concerned; and whilst we admitted that some progress in this direction would probably result, we expressed our regret that a number of important matters were left untouched by reason of the unwillingness of the Government to ask for any new legislative powers as to tuberculosis. Since the issue of the new Order and Regulations as to Dairies, Cowsheds, &c., a very important deputation has been received by Mr. CHAPLIN and Mr. WALTER LONG, presidents respectively of the Local Government Board and of the Board of Agriculture, and as this deputation raised the same question in so far as it affects our meat supplies. The deputation included

Members of Parliament and a large number of representatives of societies concerned in the sale of meat and of agricultural associations, and it was introduced by Mr. W. FIELD, M.P., who gave evidence before the Royal Commission on Tuberculosis of 1896 in his capacity of President of the National Federation of Butchers and Meat Traders of the Three Kingdoms.

The demands made by the deputation may be dealt with under three headings. Firstly, the butchers and the farmers interested in our meat-supplies asked for uniformity in the system of meat inspection and in the conditions affecting the seizure of meat on account of tuberculosis, and they alleged that in certain towns the stringency in this matter is exceptional, unnecessary, and vexatious. This demand is most reasonable and it can largely be attained by the substitution of public for private slaughter-houses in all large centres of population, by the requirement that meat inspectors shall have some skilled knowledge of their duties, and by the adoption of a code indicating that which ought to be and that which need not be seized in the interests of public health. We shall revert later to the first point. As regards the second Mr. CHAPLIN explained to the deputation that he hoped much from the circular letter which he addressed to district councils when he issued his recent Dairy and Cowshed regulations. In this circular he followed one of the recommendations of the Royal Commission and urged that no inspectors should be appointed for meat-inspection unless possessed of knowledge under three headings which he specified. Unfortunately, the unwillingness to legislate leaves this matter in the position of mere advice which cannot be enforced and we must wait to see how far it will be successful. Much the same applies to the third point, but still the matter is different. The medical officer of health must, after all, be responsible for the action he takes in seizing or not seizing a carcass or a piece of meat from a tuberculous carcass and no legislation can be expected to free him from this responsibility. But subject to this consideration an instruction of advice has now been issued in which, again following the terms of a recommendation of the Royal Commission, Mr. CHAPLIN has indicated what are the conditions of meat which should or should not be deemed to justify seizure. Most medical officers of health when giving evidence before the Royal Commission expressed their willingness to take any such authoritative statement as a guide for their action and we hope that a fair trial will be given to procedures under the new conditions. If this is done then we agree with Mr. CHAPLIN that this grievance will be practically removed.

In the second place the deputation demanded compensation for the value of carcasses seized in the interests of public health. The full bearings of this question of compensation cannot be adequately discussed in this article; it is also one as to which the Royal Commission were not unanimous. The majority, however, decided against this demand and Sir RICHARD THORNE who was one of the majority has set out in his recently published Harben Lectures on the Administrative Control of Tuberculosis the several grounds on which presumably this decision was come to. Mr. CHAPLIN only referred to three reasons which are embodied in the report of the Commission, but he particularly emphasised the fact that our vital statistics, so far as they go, tend to disprove the allegation that the production of tuberculosis through the consumption of meat is a substantial evil, and the still further fact that, although the Commissioners again and again asked for witnesses who could give them evidence of personal loss through seizures for tuberculosis, nearly all the witnesses produced, including Mr FIELD, M.P., had to admit that in a lifetime of active business they had hardly suffered at all. Mr. CHAPLIN naturally assumed that such "weighty objections" to the system of compensation for a trade risk would have been challenged either in the minority report of the Royal Commission or by the deputation, but he found no answer from either one or the other, and hence he was not prepared to lay down the entirely new principle that a purchaser who, having bought an article at a known risk with a view of placing it on sale, "should receive the whole profit of his transaction if he has escaped loss but should demand compensation from the public if his transaction has not been fortunate." He urged, indeed, that the system of insurance such as has already been found to work well and without any burden should be adopted generally. But the deputation had come for compensation and declined, for the moment at least, to entertain this proposal.

In the third place the deputation urged the retention of private slaughter-houses and they went so far as to say they did so in the interests of the public. This attitude must have been aimed, we assume, at getting compensation for any loss that may be incurred under any new legislation, for the reasons alleged in favour of the retention of these private establishments do not bear investigation in so far as public interests are concerned. We have already referred to the provision of public slaughter-houses in another part of this article and we would recall the fact that a number of witnesses before the Royal Commission admitted that the uniformity of administration which this deputation also asked for can only be attained by the substitution of public for private slaughtering places. This is also the view taken by the Royal Commissioners whose recommendations on the subject are most clear and distinct, and we can only hope that the Government will do all they can to facilitate the erection of public slaughter-houses in all large centres of population and thus to secure that the slaughtering shall be controlled and supervised by an efficient staff.

On the whole, we doubt whether the deputation are likely to gain much so long as they take up an attitude which in one important respect is so obviously opposed to public health interests, whilst pleading, on the other hand, that they should receive compensation for action which they allege is taken in the same interests. For the present the prospect of progress in this matter of the prevention of human tuberculosis through the use of meat will mainly depend on compliance with the suggestions contained in the circular letter issued by the Local Government Board. But just as we regretted that no change or progress is proposed as regards the control of our milk-supplies in so far as tuberculosis is concerned (except that which can be effected under the existing defective law), so also we cannot but feel disappointed that in the matter of our meat-supplies the Government also limit themselves to mere advice instead of acquiring new statutory powers to deal with the whole matter in a comprehensive manner.

Annotations.

"Ne quid nimis."

THE PRESIDENCY OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE choice of a President by the Fellows of the Royal College of Physicians of London is a matter which no longer concerns merely the select circle of that body, for the position which the College holds in the medical world, the important part which it plays in conferring diplomas to practise, not to mention its influence in the promotion and maintenance of a high standard of ethics, have given a wide interest to those occasions when a change has to be made in the occupant of the Presidential chair. That such a change is about to take place is no secret. Sir Samuel Wilks, the eminent and highly esteemed physician who has borne the burden of office since he was called to fill the vacancy caused by the illness of the late Sir J. Russell Reynolds, has earned a well-merited retirement after three years' service and will carry with him the sincere thanks and good wishes of the College. When the Comitia meets on March 27th some difficulty may be experienced in arriving at a decision of the question—who shall be elected to fill the Presidential chair? Many physicians have been mentioned as eminently qualified to hold office. Other things being equal, no doubt seniority of standing and past services rendered to the College will have due weight in guiding the choice of the Comitia. Again, owing to the high position which the President of this College holds as the leader of English medicine other reasons than those based on purely professional distinction will no doubt have considerable influence in determining the result of the election. Amongst those who may reasonably be expected to receive support are Dr. F. W. Pavy, F.R.S., who was elected a Fellow in 1861; Dr. W. H. Dickinson, elected in 1865; Sir W. H. Broadbent, F.R.S., elected in 1869; and Dr. W. S. Church, elected in 1870. The scientific attainments and personal attributes of these gentlemen are so well known that we have no doubt that any one of them would discharge the duties of President with ability and discretion. Dr. Pavy's researches in the physiology of digestion, and especially his illuminating work on diabetes, which have been pursued for many years, Dr. Dickinson's pathological investigations and his recent occupancy of the Presidential chair of the Royal Medical and Chirurgical Society, and Sir William Broadbent's contributions to clinical medicine and his enthusiastic support of movements for the furtherance of public health and education will all doubtless be recalled when the choice is about to be made; whilst the services of Dr. Church within the College itself and his intimate acquaintance with its affairs give him a high claim to its chief office. In addition to the above the names of other distinguished Fellows suggest themselves and will doubtless secure support on this occasion, such as those of Sir R. Douglas Powell, Sir Dyce Duckworth, Dr. Gee, Dr. Hughlings Jackson, and Dr. Charlton Bastian.

FOOD POISONING.

THE following case, related by M. Louis Rénon at the meeting of the Société Médicale des Hôpitaux on Feb. 17th, is important as a contribution to the comparatively unknown subject of food poisoning and interesting on account of a very uncommon symptom—arthritis. M. Rénon remarked that various chemical agents—lactic acid, the poisons of uræmia, uric acid, tuberculin, and therapeutical serums—may cause "pseudo-rheumatism." So may food poisoning; in 1760 Boissier de Sauvages wrote: "Fish caught in the island of Bahama excite violent pains in the joints of those who eat them. These pains terminate in a certain time in a sensation of itching which lasts three days." But arthritis from such a cause as exemplified in the following case is not common. A young man, aged 20 years, had a mild attack of influenza; on the third day the temperature was normal and the pains had disappeared. He took at lunch on the fourth day a small portion of chicken, a sole, and a dozen oysters. A few hours afterwards he had a feeling of weight and pain in the abdomen. Urticaria appeared at 6 P.M. and during the night he became covered with large wheals; on the following morning they were retrogressing, but movement of the left arm was painful, and the right hand was œdematous on the dorsal surface, red and painful, and every movement caused him to cry out. The metacarpo-phalangeal joints of the index finger and the little finger were swollen; they were very tender to pressure and to the least movement of extension or flexion. The sheaths of the extensor tendons were equally tender. The wrist presented the same pain on the least movement. Supination, flexion, and extension of the forearm were painful, but the pain was less than in movement of the other joints. There was no fever. The tongue was indicative of dyspepsia and the abdomen was a little tympanitic. There had been constipation for 36 hours. The other organs were normal. "Pseudo-rhematism" due to poison by the oysters or fish was diagnosed. The treatment consisted of milk diet, purgation, and the drinking of large quantities of fluid. On the fourth day of the poisoning the eruption and the œdema of the hand had disappeared. The metacarpo-phalangeal joints and the synovial sheaths were not painful, but the pain persisted in the wrist and elbow. On the sixth day all the symptoms had gone. What was the nature of the articular and tendinous inflammation? Acute rheumatism was excluded in consequence of the absence of fever, the rapid evolution, and the other signs of gastro-intestinal intoxication. Influenza was not the direct cause, because it had lasted scarcely 24 hours, was extremely mild, and had passed off two days previously. Perhaps the influenza had led to slower elimination of the poisons. The gastric symptoms and the urticaria point to the fish or oysters as the cause. Curiously the arthritis developed in the places first attacked by urticaria but it did not recede as rapidly.

THE REGISTRATION OF STILLBIRTHS.

WE have received a copy of a petition to be presented to the House of Commons from the members of the British Institute of Undertakers with regard to the present requirements for the purpose of interment of a stillborn child. The petition shows that at the present time all that is necessary is the production to the cemetery authorities of what purports to be a certificate of the delivery of such stillborn child signed by a medical practitioner or a midwife, no registration with the district registrar being required. It further points out that there can be no ready means of testing the veracity of such certificates, written as they often are on scraps of paper or even in pencil, and yet as a rule they are accepted by most of the cemetery authorities without demur. The British Institute of Undertakers believe, and we can well imagine that such is the case, that the present method of certifying the birth of a stillborn child is open to serious abuses which could be avoided by a proper certificate being issued by a proper authority. We have on several previous occasions drawn attention to this anomalous and dangerous state of things and the whole question was considered by the Select Committee of the House of Commons for the Improvement of Death Registration and Certification. In their report issued in 1893 they stated: "There is reason to think that if statistics upon the subject could be obtained it would be found that the number of children buried in the United Kingdom annually as still-*born is enormous.*" The Committee recommended that stillbirths which had reached the stage of development of seven months should be registered upon the certificate of a registered medical practitioner and that it should not be permitted to bury or otherwise dispose of such a body until an order for burial had been issued by the registrar. This recommendation would apply apparently only to stillbirths of seven months or upwards, but such form but a proportion of the whole number. It is estimated that the total number of stillbirths in England and Wales reaches 45,000 per annum. What percentage of these reached the period of seven months it is impossible to say, but obviously a very large number must be below that age. In the Parliamentary Return issued to the House of Commons in June, 1893, and analysed by us at the time, it was shown that in a large number of countries the registration of stillbirths is compulsory and is carried out by the authorities who register births and deaths. The only remedy for the existing state of things and its possibilities *of serious abuse is the adoption of some such compulsory* system. The difficulties, however, in carrying it out would be very great. At the present time no registered medical practitioner attends at the majority of stillbirths, probably a half or more are attended by midwives, and in a great many cases not even a midwife is present. Who is to certify such cases for registration? Then, again, the difficulty of exactly defining a stillbirth is no light one and in the report referred to the definitions adopted by the different countries are exceedingly numerous and varying. If the duties implied by such legislation are to be carried out by general practitioners or by a public official, such as a medical officer of health, it will mean a great increase of work and responsibility and a corresponding increase in the cost of registration, since it is obvious that some fee would have to be charged for the certificate which in very many of the cases the parents would be unable to pay and it is exceedingly doubtful if Parliament would sanction any scheme involving such a large increase of expenditure. Still, if compulsory notification of stillbirths can be carried out in such countries as Norway, Sweden, Denmark, and Italy, it should certainly be possible in the United Kingdom, and the British Institute of Undertakers have our best wishes for success in their laudable endeavour to promote legislation upon this most important question.

THE IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

THE St. Patrick's festival dinner of the above association, given at the Café Monico on March 18th, under the presidency of Sir William Thomson, F.R.C.S. Irel., was a very great success. The company numbered about 250. The guests of the evening, who were numerous, will long regard it as one of the best dinners and one of the most brilliant gatherings at which they have been present. The music was good, the speeches were far above the average of after dinner oratory, and the room was graced by the presence of ladies. We have often heard the question of the presence of ladies at such dinners discussed and sundry arguments advanced against it. One thing is certain—that on this occasion they did not hinder any of the ordinary parts of the entertainment. Among the guests were General Sir George White, V.C., G.C.B., G.C.S.I., G.C.I.E.; General Sir Thomas Gordon, K.C.I.E., C.B.; and Sir Dennis Fitzpatrick, K.C.S.I. The medical profession was well represented by Sir William MacCormac, Bart., K.C.V.O., President of the Royal College of Surgeons of England; Inspector-General William Lloyd, R.N.; Sir William Gowers, Professor Alexander Macalister, F.R.S., and others. Sir William MacCormac, in proposing the health of the guests and alluding specially to the guest of the evening—Sir *George White*—spoke in high terms of the Indian army as one of the most important armies in the world, ready for anything and for any emergency. The acts of devotion and the feats of daring which it performed came to us muffled by the distance of the far off fastnesses in which they were performed and by the absence of reporters of sensational incidents. But India had been the scene of our greatest triumphs not only in arms but in government, and the humanity and consideration of our rule had won the respect of the various races which owned our authority. Professor Alexander Macalister proposed "Our Defenders" and did so with his usual grace of speech and fund of illustration. The toast was responded to by Sir Thomas Gordon in an admirable speech in which he paid a high tribute to the medical element in the services. It is no disparagement to other speakers to say that the speech of the evening was that of Sir George White who spoke like a soldier who has played a great part in a great field of labour and responsibility, and he followed the example of Sir Thomas Gordon in eulogising the medical care of the sick, especially after the late operations on the North-west Frontier, where the wounded had to be conveyed for 100 miles under great disadvantages alike of climate and carriage and yet showed a high average of recoveries. We congratulate the association on the success of their festival dinner. Previously to the dinner the annual meeting was held when the report for the year 1898-1899 was read *The Council congratulated the association upon the good work done during* the year, especially with regard to the desirable reforms asked for in the position of the Irish Poor-law medical officers. The association had a balance of over £96. After the election of sundry gentlemen as new members and the usual votes of thanks the meeting terminated.

RETROBULBAR NEURITIS.

THE February number of the *American Journal of the Medical Sciences* contains an article by Dr. William Sym of Edinburgh on the imperfectly studied subject of Retrobulbar Neuritis. The term was introduced by von Graefe to indicate optic neuritis arising primarily in the nerve or by continuity *with other parts,* and *not from intracranial* pressure. As in some cases there were no ophthalmoscopic changes the lesion was referred to a portion of the nerve behind the eye. According to Mr. Gunn, "rapid failure of vision, usually in one eye only, often accompanied by pain and tenderness in the neighbourhood, absence of *early ophthalmoscopic* changes, and a tendency to recovery, are the usual prominent features." The *failure of vision* is of a peculiar type; it is principally or solely central; *its degree* varies from a loss of definition to complete loss of light perception. In the less severe cases there is central loss of colour perception; blue and yellow may be fairly correctly seen whilst red and green are lost and appear as yellow and white respectively. In bad cases there is central loss of all colour perception. Many patients say that whilst vision is bad in the bright hours of the day it improves in the evening. It is not probable that there is improvement in visual acuity though the patients see better in the subdued light, possibly on account of exhaustion by the brighter light of the affected fibres. Vision is better after a night's rest but worse on fatigue or fasting. The patient is apt to complain of a fog or mist before the eye. A symptom present in a considerable proportion of cases of ordinary neuritis and first described by Dr. Hughlings Jackson—temporary, almost momentary, attacks of blindness—is never found. As to the description of retrobulbar neuritis as usually unilateral Dr. Sym thinks that its truth depends on whether toxic amblyopias are regarded as a variety. Apart from this, retrobulbar neuritis not infrequently affects both eyes consecutively. Ophthalmoscopic signs are usually absent early and may be, but are not usually, absent altogether. But they are trifling in proportion to the loss of vision in contrast to ordinary optic neuritis where the ophthalmoscopic signs may be great and visual symptoms absent. The prognosis usually is good; improvement is to be expected in a few weeks or even days, which sometimes coincides with the appearance of ophthalmoscopic signs, so that curiously sight is improving whilst the signs are getting worse. In a large proportion recovery seems to be complete, but in some a decided and perhaps an absolute scotoma remains permanently. The unilateral cases may be due to the spread to the nerve of local inflammation, or to syphilis, rheumatism, gout, or malaria. They do not differ essentially from the bilateral except in the tendency to recovery. The latter occur in diseases of the spinal cord, especially locomotor ataxia, disseminated sclerosis, and general paralysis of the insane; they include hereditary optic atrophy and toxic amblyopias. The treatment of the unilateral cases consists in attacking vigorously the constitutional cause—in rheumatic cases by purging, salicylates, and blistering the temple. Action of the skin and kidneys must be encouraged. Pilocarpine subcutaneously will be found as useful as in persistent scleritis. Some believe in iodide of potassium and mercury even in non-syphilitic cases. In the longer-standing cases, especially those more nearly allied to atrophy, strychnine is chiefly relied upon, but it has little influence.

THE LIVERPOOL MEDICAL INSTITUTION.

AN interesting ceremony took place at the Liverpool Medical Institution on March 15th, when Dr. John Cameron, the senior physician to the Liverpool Royal Southern Hospital, was presented with a congratulatory address upon his attaining the sixtieth year of his membership of the society. The occasion was looked forward to with much interest by the members and associates, as Dr. Cameron's connexion with the society had extended over a period which had not been reached by any of his predecessors or compeers. At the invitation of the President (Dr. W. Macfie Campbell) and the Council, a large number of members and associates attended to do honour to their veteran colleague who on the auspicious occasion happily appeared to be in robust health. The address, which was handsomely illuminated, was read by Dr. John Birkbeck Nevins, the member of the society next in point of seniority, and was in the following terms:—"To John Cameron, M.D., F.R.C.P. The members of the Liverpool Medical Institution desire to congratulate you on attaining the sixtieth year of your connexion with the society. We wish to thank you for your long services as trustee, councillor, and as president in 1872, when you worthily upheld the dignity of the chair and of the profession. As physician to the Royal Southern Hospital for a long series of years you have shown enthusiastic and unwearied devotion to clinical work and to the good of the charity. As head of the consulting branch of the profession your conduct has always been marked by a high sense of honour and courtesy to your medical brethren. We wish you many years of useful life in our midst, and we take the opportunity of this anniversary to assure you of the esteem and regard of your fellow members, to whom your career will always remain a conspicuous example of professional integrity." The address was signed on behalf of the members by W. Macfie Campbell (the President), John M. Hunt (honorary general secretary), and William Thelwall Thomas (honorary secretary of ordinary meetings). Dr. Nevins said that among his early recollections of the institution in which Dr. Cameron took a leading part the society at first met in an upper room. It was not an uncommon experience for the meetings to be postponed in consequence of the necessary quorum of seven members not being present. In 1848 the average of attendances at the ordinary meetings was 14, whereas now the average is 80. Dr. Nevins eulogised the marked industry which characterised Dr. Cameron during a long life and urged the junior members to follow his example. Mr. Edgar A. Browne spoke on behalf of the ordinary members and said that the occasion was a red-letter day in Dr. Cameron's life and in the history of the Liverpool Medical Institution. Such an occasion was probably unique in the history of any society in having an active member for such a long period as 60 years; but Dr. Cameron came from a race of men of strong natural fibre and his honourable life is an example to be followed. Dr. William Permewan made further congratulatory remarks on behalf of the junior members of the society. Dr. Cameron, in his reply, expressed his grateful thanks for the honour conferred upon him, which he accepted as a mark of personal regard. He described the early struggles of the society and paid a generous tribute to its founders of the year 1837. It was now in a condition of prosperity, possessing upwards of 300 members and associates, and he personally had derived great benefit from his membership. The presentation of the address was preceded by a conversazione which was numerously attended.

THE LATE LORD HERSCHELL AND THE JENNER SOCIETY.

AT a recent meeting of the Jenner Society held at Gloucester it was unanimously resolved to send to Lady Herschell the following expression of appreciation of the great service rendered to his country by the late Lord Herschell as President of the Royal Commission on Vaccination:—

> "The President and members of the Jenner Society, whilst uniting in the general expression of deep regret for the death of the late Lord Herschell and of warm appreciation of the great services he in so many ways rendered to his country, desire especially to record their high sense of the singular ability, the perfect impartiality, and the untiring patience with which, as President of the Royal Commission on Vaccination, he for seven years conducted an important and difficult inquiry, with the firm determination, as he himself subsequently said, 'to follow boldly the facts which experience disclosed, whithersoever these might lead,' and with the earnest desire, when the truth had been established, to so apply it as might be most beneficial to the public health."

The resolution is signed by the President (the Earl of Ducie, Lord-Lieutenant of Gloucestershire), the Chairman of the Executive Committee (Dean Spence, D.D.), Mr. G. E. Lloyd Baker (High Sheriff of Gloucestershire), and Dr. Bond (the honorary secretary).

VACCINATION CERTIFICATION IN SCOTLAND.

A TRIAL has recently taken place at Inverness in which a medical man, Mr. John Lamont, was charged with having issued false certificates of successful vaccination during the time that he was medical officer of the parish of South Uist, between August, 1897, and July, 1898. As a matter of fact Mr. Lamont's custom was to vaccinate children and then rely upon a statement of success from the parents, a minister, or a schoolmaster. On receiving this he signed the form for successful vaccination. Various other practitioners in Inverness stated that they did the same thing. This, however, does not make the practice right. As a matter of fact, no one man could possibly undertake the duties of a Highland island district with any real chance of doing the work properly. It is beyond human capabilities to do so. Mr. Lamont worked heroically through an epidemic of typhus fever and won commendations from the Local Government Board for his heroism. Not only did he visit the sick, but he nursed them and even when they died put their bodies into the coffins because no one else would do so. He does not seem to have got on with the parish council and was dismissed in July, 1898, by that body. In the following September he was arrested on the charges mentioned above. He was apparently ignorant of the rules laid down by the Local Government Board, for the parish council had never sent him a copy. And as a matter of fact, although 16 certificates were said to be wrong it did not come out in evidence that they all were so. The jury unanimously brought in a verdict of "Not guilty" and allowed Mr. Lamont's expenses.

CRIME AND THE RESPONSIBILITY OF THE PRESS.

WHEN a crime is chronicled in a certain section of the press in such a manner as to minister to the taste of morbid sensationalism it is safe to predict that within a few weeks or possibly a few days only the world will hear of another crime whose details correspond with the accounts of the previous one. Recently the news was received from America that two members of a well-known New York club had received through the post a bottle purporting to contain medicine but which really contained a salt of mercury, the object being to poison the recipients. Two deaths resulted. Now we hear that an inmate of Leavesden Pauper Lunatic Asylum has met with her death in a similar manner. In this case, however, the drug was sent in a parcel of cake. A forged letter written by an illiterate person was received by the deceased before her death. That the second crime is an imitation of the first one is highly probable. The idea of sending poisons through the post is a novel one and it is unlikely that an ill-educated person would conceive it without having some example before him and in this case there can be little doubt that the example was that of the Knickerbocker Club crime, accounts of which have been copied into English journals. That section of the press, especially of the American press, which seizes upon stories of crime and paints them with all the icteritia of which the "yellow" reporter is capable must certainly be held responsible for a great amount of harm. It is well within the reach of possibility that weak-minded people who perhaps have often thought of committing a crime but who have not had the courage or the wit to put their thoughts into practical effect should be stimulated by sensational accounts of successful criminal exploits to do that which otherwise would have remained a creature of their imagination. It is the old story—

> "How oft the sight of means to do ill deeds
> Makes ill deeds done."

HISTOLOGY OF THE SKIN.

IN the second number of the *Comptes Rendus* for 1899 M. Ranvier gives the results of his long-continued microscopical observation of the structure of the skin in man and in the lower animals. The succession of layers of the epidermis as now generally admitted is the stratum corneum or external or superficial desquamating layer, the stratum lucidum, the granular layer, the Malpighian layer, and deepest of all, resting on the dermis, the basilar generating or germinal layer (stratum germinativum), so-called because when uninjured the other layers of the epidermis can be derived from it. According to M. Ranvier the layer that is just beneath the stratum granulosum of Langerhans—that is, the Malpighian layer—is characterised by the presence of numerous fibrils embedded in the cell protoplasm and he has therefore named it the stratum filamentosum. The filaments are not affected by water even when boiling; they swell in acids and in alkalies and become coloured violet with hæmatoxylin and red with carmine. With thionine they assume a pale green tint or remain uncoloured, though this renders the cell protoplasm of an intense violet colour. The filaments are not therefore simply processes of protoplasm. They are doubly refracting. Like the granules of eleidine in the stratum granulosum or like starch grains they are products of cell activity. In regard to the stratum lucidum of Oehl and Schroen, M. Ranvier finds that it is in reality double. To demonstrate this sections of skin made after immersion for an hour in osmic acid, then for 24 hours in alcohol, are coloured with picrocarminate and examined in glycerine. The eleidine is not coloured because it has undergone osmic metallisation. The true stratum lucidum is not coloured either by the carmine or by the osmic acid, but immediately beneath it and above the stratum granulosum is a thin layer which assumes a bright-red colour. It is composed of only two or three layers of transparent cells. Its external surface is smooth, the internal is festooned. It is this layer which in M. Ranvier's opinion really separates the two chief layers of the skin, the only ones formerly admitted—viz., the corneal layer and the Malpighian layer. M. Ranvier names it the stratum intermedium. It is remarkable that although it colours so deeply with carmine it does not colour at all with purpurine. After hardening in alcohol it remains uncoloured with thionine whilst this stain colours the stratum corneum verum green and the stratum filamentosum violet. The nuclei of the cells of the stratum intermedium are atrophied and their investing membranes present epidermic fibrils which are wound like the threads in a cocoon. According to M. Ranvier, then, no less than seven distinct layers can be demonstrated by the aid of staining agents to be present in the epidermis. These are named, beginning with the deepest which is in contact with the dermis, the stratum germinativum, stratum filamentosum, stratum granulosum, stratum intermedium, stratum lucidum, stratum corneum, and stratum disjunctum, which last is formed by the superficial desquamating cells.

CONDENSED SEPARATED MILKS AND FALSE DESCRIPTIONS.

ON March 20th Mr. Walter Long, the President of the Board of Agriculture, received a deputation upon the subject of the Sale of Food and Drugs Bill. The deputation consisted of representatives from various provincial and metropolitan local authorities and their object was to ask for the insertion of a clause in the Bill making it obligatory for manufacturers to label tins of condensed, separated, or skimmed milk so as to indicate that it was not fit food for children or invalids. The deputation was introduced by Mr. Radcliffe Cousins, chairman of the Camberwell Vestry. Mr. W. W. Stocker of Willesden said that in a period of four weeks infant mortality in Willesden had reached 40 per cent. chiefly through deaths from diarrhœa caused by bad feeding. He considered condensed separated milk useless for infants' food. Mr. Cassall, the public analyst of Kensington, gave evidence as to the poverty of some condensed milk. Mr. Long said that if the public liked to buy a thing they must be allowed to buy it. The Government could not put shackles on the public for this purpose. The safest line for the public and the Government was that the public should know what they were buying. We quite agree with this last remark, but will the Government take steps to ensure this very desirable result?

Will they, for instance, make it obligatory for those who sell mixtures of chicory and coffee not only to label the tin or packet to the effect that it contains a mixture of chicory and coffee but to state the exact proportions of each? Likewise upon the fabric known as "union" the exact proportions of linen and cotton should be stamped. It is keeping knowledge from the purchaser to sell such fabric either as linen or cotton, for it is neither wholly one nor the other; and so with very many other articles, such as ivorine, leatherette, amberoid, and the like. Every article made of celluloid should be marked in some way to tell the purchaser that it is inflammable, especially in the case of celluloid cigarette-holders; or, still better, the sale of these last should be prohibited. With all due respect to Mr. Long, the essence of a Government is to put shackles on the public. The Sale of Food and Drugs Bill as it stands at present is wrong and unsound and we earnestly hope that the Grand Committee will amend it thoroughly or else that it will be thrown out.

THE FATAL CASE AT BALLINCOLLIG BARRACKS.

WE cannot feel surprised that the deplorable circumstances attending the death of a young soldier of the 17th Lancers whilst undergoing confinement in a prison cell at Ballincollig Barracks, near Cork, were made the subject of earnest inquiry and debate in the House of Commons on March 17th. Mr. MacNeill, who introduced the matter, spoke in indignant terms about the punishment system of the army generally and particularly of the treatment which had been dealt out to the trooper in question. Mr. Wyndham replied in sympathetic terms and expressed his regret at the loss of a young soldier so soon after his entering the service, but he said that the most searching inquiry had been made into the case and he then proceeded to detail the facts connected with the occurrence. We may say at once that, so far as Major Fortescue, the officer commanding, and the military officers were personally concerned they seem to have acted with proper care and discretion, and it appeared to be generally admitted that they were quite blameless. With regard to the acting medical officer—for it was a civilian practitioner who was in medical charge of the troops and responsible for reporting as to the health or otherwise of the soldiers in question—the same unanimity of opinion did not apparently prevail. Notwithstanding the attention which was given to the subject in the House of Commons we are somewhat in doubt, however, as to what was the exact nature of the complaint from which the soldier was alleged to have been suffering. The immediate cause of death as determined by the post-mortem examination is stated to have been cardiac thrombosis, but we are not told whether there was any pre-existing valvular disease of the heart, such as might have been reasonably expected to have been discoverable on medical examination. The fact of the poor young fellow having suddenly died showed that he was not at the time in a fit condition to undertake shot drill or indeed to undergo any punishment; on the contrary, the hospital would probably have been the proper place for him under the circumstances. But without knowing more of the detailed medical history of the case than we do we cannot say, of course, whether there was any error in diagnosis attributable to defective medical examination or not. Mr. Wyndham did not admit the existence of anything blameable in this respect, whereas Mr. Carson apparently thought otherwise and that the matter was one for further examination. On the general question as to the employment of civil practitioners in the case of a small number of troops Sir H. Campbell-Bannerman made some sensible remarks and with reference to the unfortunate case under discussion he particularly urged that if the examining surgeon had been a military medical officer, accustomed to see cases of malingering, it might have been said that he took a harsh view, whereas in this case the soldier could have laboured under no such disadvantage for a civil practitioner would be perfectly unbiased. There is only one thing connected with this unhappy occurrence which forms a legitimate subject of congratulation and that is the assurance of the Under-Secretary for War that a large reform in the treatment of military prisoners is under consideration. The whole subject, as it seems to us, of army crime and its punishment requires to be thoroughly reconsidered and revised at the present time.

LEGAL ASPECTS OF CHRISTIAN SCIENCE.

IN the *North American Review* for March an article by Mr. W. A. Purrington is devoted to Christian Science and its Legal Aspects. It is of interest because, apart from considering the possibility of dealing with the so-called Christian Scientists under the criminal law, it gives enough quotations from the works of the enterprising lady who founded the sect to enable those who care to do so to obtain a bird's-eye view of its absurdities. "Christian Science" has hardly as yet made sufficient headway in London to earn the distinction of an article to itself in a leading monthly magazine and beyond its not very numerous fashionable converts and the more curious of their friends its existence was hardly appreciated until the recent deaths of two gentlemen, one being a prominent journalist and novelist, for a time compelled public attention to the new Act. The legal proceedings which followed the death of Mr. Harold Frederic proved that it will only be in rare cases that persons allowing those immediately connected with them to die in the hands of Christian Scientists without medical aid will become liable to conviction for manslaughter and the "healers," as the persons who let *Mr.* Frederic die are called, seem likely to enjoy equal immunity. This is because the "healers," in this country *at all events*, prudently refrain from undertaking the cases of children who are, fortunately for themselves, protected in some measure by statute. We grant that the Act of Paliament does not prevent the Peculiar People from letting their children die with comparative impunity, but then these persons have always impressed the judges who have tried them with the genuineness of their religious motives. In addition, however, to the more serious penalties attaching where death supervenes there is always in the case of quacks the possibility of a disappointed dupe prosecuting for the obtaining of money by false pretences, or, dupes being always slow to proclaim their folly, of those persons to whom the protection of the public is entrusted prosecuting for the attempt. Should any such measure be resorted to against the Christian Scientists their published documents would seem to supply the necessary material. Like so many of their fellows they find it profitable to print details of so-called "cures"—those cited by Mr. Purrington including a child (in America, no doubt, where they still attend children) who on being lifted from his cradle and kissed was at once cured of inflammation of the bowels, and a lady who was relieved of heart disease and dropsy upon the founder of the sect receiving a letter from the patient's husband. But the police, who are ever ready to attack the gipsy who makes half-a-crown by the venerable and comparatively *harmless* fraud of telling a servant-girl's fortune, stand by and permit abortionists and quacks of all kinds to openly advertise their wares with quite as absurd "cures" to support them and seem hardly likely to interpose at present, while Christian Scientists are no doubt wary enough to keep outside the narrow confines of our Medical Acts and to avoid such dangers as may be run by those not notifying the presence of infectious disease. On the whole, then, allowing for slight differences in our law, we agree with Mr. Parrington that these persons not infrequently offend against the criminal law, and that their prosecution, though not very likely to take place, is desirable owing to the enlightening effect it would have on the public. As he aptly observes in conclusion, "publicity will destroy the cult far more quickly than legislation." Legislation certainly seems superfluous if the existing law be adequate and if it be adequately enforced.

THE EVILS OF SNOW.

A MORE or less heavy fall of snow is not without its effects upon the public health in an unfavourable direction, due in general to an augmentation of respiratory diseases In towns a fall of snow is particularly disagreeable since it soon settles down on the pavements of our streets and in the roadway into a highly chilling muddy slush. It is the readiness and eagerness with which slush absorbs heat in the act of liquefying which renders it so dangerous to the health of those who are obliged to walk through it. Again, it is a notorious fact that however proof a leather boot may be against rain it seldom proves a barrier against the percolation of water derived from the melting of snow. This is probably due to the effect of the intense cold of snow making the leather, so to speak, crisp instead of supple owing to the oil in the leather which makes it supple becoming congealed. In this way probably leather loses its most valuable quality. A useful precaution is to grease the boot outside with an oil of comparatively low melting-point as, for example, goose grease or some mineral oil. A fall of snow, however, is not without some compensatory advantages. It rapidly clarifies and purifies the air. An analysis of snow shows the presence of an enormous proportion of organic impurities and bacteria which are swept out of the air by the descending particles. Again, the friction of snowflakes with the air gives rise to the formation of ozone. The smell of ozone in the air after a snowfall is very marked. We are pleased to note that our vestry authorities on the occasion of a moderately heavy fall of snow in London last Tuesday were on the alert to remove the horrible slush as it accumulated. The City streets were scrupulously clean within a few minutes of the cessation of the fall. This is as it should be, for the presence of a wet freezing mixture in our streets is a source of extreme discomfort and danger to pedestrians.

SANITATION IN HOTELS.

THERE is a praiseworthy tendency at the present time to devote especial attention in a sanitary sense to all places where the public aggregate, and perhaps the best example of this tendency is to be found in the regard which is now being paid to the conditions under which children at ages susceptible to infectious disease are gathered together in our public elementary schools. It is, however, important that we should not in our zeal for the health of the little ones altogether overlook the conditions under which a not inconsiderable number of adults at the bread-winning ages spend a great part of their existence. In the hotels of our great and small towns men in the prime of life and having families dependent upon them are nightly housed under conditions which are often far from satisfactory. The ventilation of their bedrooms, especially in the older hotels, is often highly defective and the other sanitary arrangements are liable to be if not altogether primitive in principle, approximately so in practice. The so called water-closet often may be found ventilating only into an inside passage, itself close and stuffy, while the pan of the closet is old-fashioned in type and the water-supply is *nil.* Furthermore, the pungent odour which arises when the handle of these old-fashioned closets is manipulated bears evidence to the fact that the soil-pipe is imperfectly (if at all) ventilated and that the "container" is coated with filth. Often, too, in this same closet is a defectively trapped lavatory basin which yields a highly offensive smell. It is under conditions such as these that opportunities are afforded for contracting disease, opportunities which are much accentuated by the fact that the lighting of these closets is often extremely defective and hence cleanliness is all but an impossibility. It is difficult to understand why *more attention is not devoted to this matter* by the officers of local sanitary authorities. A periodical visit would do much to bring about a better state of affairs.

IRISH POOR-LAW MEDICAL SERVICE.

ON March 16th a deputation nominated by a public meeting recently held in the Royal College of Surgeons in Ireland was received by the Local Government Board. Sir Thornley Stoker who introduced the deputation said that they came on behalf of the Irish Poor-law medical officers backed by the authority of the largest meeting of the Irish medical profession that had ever been held in Ireland. They only wanted reasonable reforms and by far the most important was the question of superannuation. Dr. J. W. Moore referred to the necessity of allowing travelling expenses. Sir William Thomson referred to the abuse of visiting tickets which were given out without any care. He mentioned one case in which a dispensary medical officer who was summoned on an urgency ticket travelled 10 miles and was shown a pig as his patient. Another medical man was summoned on one occasion to see a cow by a ticket filled in by the owner. On another occasion he had to go out to see a donkey. In this case the chairman of the committee signed the ticket. The Vice-President gave the usual official reply that the Local Government Board would give the matter every consideration. We hope that they will not only consider the question but see that the lot of the Irish dispensary medical officer is made less hard; but we are glad to see that the Local Government Board have intimated to the Cork Board of Guardians that Poor-law medical officers are to have a month's holiday and that substitutes are to be paid by the guardians. We would refer our readers to our issues of Jan. 7th, 14th, and 28th, in which we gave an account of the many hardships under which these practitioners labour.

PATHOLOGICAL CHANGES IN THE NERVOUS SYSTEM IN DELIRIUM TREMENS.

IT is not often that cases of delirium tremens end in a fatal issue if occurring in otherwise healthy subjects free from cardiac, arterial, pulmonary, and renal disease. Uncomplicated fatal cases are rare, and till recently have not been minutely investigated as regards the microscopic and pathological changes which take place in the brain and which render these patients restless, terrified, and subjected to visual and horrifying hallucinations and insomnia, and produce general muscular weakness and tremor of the hands, lips, tongue, &c. Two such cases recently investigated and published by Dr. Ewing[1] of Columbia University (New York) are noteworthy. In one the patient was a young man, aged 25 years, who drank heavily and who was in a state of intoxication for six weeks, finally dying from delirium tremens with exhaustion and pyrexia; the temperature rose to 104° F. before death. In the other case, a man, aged 29 years, from similar indulgence extending over three months (12 weeks), during the whole of which period he was said not to have been sober, also died from delirium tremens, the temperature before death rising as high as 105°. Post-mortem examinations were made soon after death—in six hours in one case and in twelve hours in the other. Intense and general capillary congestion was found in the brains of both subjects. Sections of the brain, medulla, and spinal cord which were made after hardening in Lang's fluid and were stained with Nissl's methylene-blue method gave very striking and instructive changes. To begin with, the great "motor" cells of the cord and medulla were extensively affected and were nowhere normal. The "chromatic rods"—the normal stored-up pabulum of the nerve cell which is used up during functional activity—were almost entirely disintegrated and destroyed or absent in these cells. In many other cells this "chromatolysis" was even more advanced and the cell body showed transparent areas (hyaline degeneration). Further, the outlines of many cells were irregular and ragged (erosion of surface) and the nuclei were dislocated from their normal position, sometimes so markedly as to project from the side of the cell body. Similar chromatolytic changes but to a less extent were found in the cerebellum (Purkinje's cells). In the hemispheres the cortical pyramids (archyochromes) failed to exhibit the usual network or striated arrangement of these rods, and those which were present were either feebly-coloured and indistinct or broken up into coarse granules. In the second patient (three months' intoxication) these changes were more marked. Dr. Ewing compares these changes in delirium tremens with those of acute experimental alcoholic poisoning in animals and decides that the former changes are more marked. The nervous symptoms of delirium tremens are ascribed in large measure to the profound nutritive changes (as revealed above) which alcohol produces and which give rise to restlessness, tremor, insomnia, and pyrexia before they end in a fatal issue. The investigation of cerebral changes in sub-acute and chronic alcoholism described by Andriezen in this country (with the use of Golgi's and Nissl's methods)[2] and by Berkley in America (with the same methods),[3] combined with Dr. Ewing's present research, must serve to show the importance of this branch of neurological investigation and to encourage further work in this direction as regards the cerebral pathology of alcoholism.

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[1] Archives of Neurology and Psycho-pathology, vol. i., No. 3 (pp 313-5), 1898.

THE spring meeting of the Northern and Midland Division of the Medico-Psychological Association will be held at the County Asylum, Hatton, near Warwick, on April 12th. Members intending to be present should communicate with Dr. Crochley Clapham, The Grange, near Rotherham.

AT a meeting of the Cremation Society held at Grosvenor House on March 15th Sir Henry Thompson, the President, delivered an address upon the career of the society from its inception to the present time.

H.R.H. THE DUKE OF CAMBRIDGE will preside at the annual dinner of the Sanitary Institute to be held at the Whitehall Rooms on May 2nd.

THE sittings of the Royal Commission on the Water-supply of London came to an end on Thursday, March 23rd.

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[2] Brain, 1894.

[3] Ibid., 1895.

MEDICAL MAGISTRATE. — Mr. Edmund West Symes, M.D. Edin., M.R.C.S. Eng., of Halifax, Yorkshire, has been appointed a magistrate for that borough.

THE USE OF PHOSPHORUS IN THE MANUFACTURE OF LUCIFER MATCHES.

NOW that the scientific, technical, medical, and dental aspect of the question in regard to the liabilities of those engaged in the manufacture of phosphorus matches has been clearly brought forward we may shortly expect some fresh legislation on this important subject. The names of Professor T. E. Thorpe, LL.D., F.R.S., the principal chemist of the Government Laboratory, Professor Thomas Oliver, M.D. Glasg., F.R.C.P. Lond., physician to the Royal Infirmary, Newcastle-upon-Tyne, and Dr. George Cunningham, M.A. Cantab., senior dental surgeon to the London Hospital, form a trio of authorities whose views and account of the various sections of the subject will carry very great weight and ultimately materially help in the elucidation of a problem which affects the life and well-being of those engaged in the important industry of match manufacture. The Blue Book just issued, which embodies the several reports of these experts and to which an introductory memorandum by the Chief Inspector of Factories, Dr. Whitelegge, has been added, is a valuable contribution to the subject and one which should leave little doubt as to the direction in which the manufacture of matches can be better regulated with a view to minimising the risks of injury to health of the operatives concerned.

We may deal with Professor Thorpe's report first. At the outset he points out the different properties of yellow and red phosphorus and explains that the products of the oxidisation of yellow phosphorus are phosphorous oxide and phosphoric oxide. Only the yellow phosphorus oxidises at the ordinary temperature of the atmosphere. The glow is invariably accompanied by, and is probably dependent upon, the formation of ozone. By the way, we should like to ask whether the ozone which must be produced in comparatively larger quantities in match works has any unfavourable influence on the health of the operatives. This point is not touched upon in the report, although ozone, we believe, has distinctly poisonous properties when inspired in tolerable quantity. In some recent experiments made in the Government Laboratory it was shown that the spontaneous oxidation of phosphorus could be instantly checked by allowing to evaporate about one centigramme of turpentine into 1000 cubic centimetres of air. Phosphorus placed in this atmosphere did not fume or glow nor was any oxygen absorbed. It is suggested, therefore, that the air in the match works might be impregnated with a small quantity of oil of turpentine with distinct advantages. Professor Thorpe also conducted some experiments as to the chemical effect of phosphorus fumes upon the teeth, with the result that a marked solvent action was shown to take place upon the teeth to the extent in the case of a dilute solution of phosphoric acid of a loss of 8·9 per cent. of their original weight. The amount of phosphorus fume in the air of the dipping-room was found to be equal to 0·02 milligramme per 100 litres. In the air of the boxing-rooms it was 0·12 milligramme phosphorus per 100 litres. This increase is due to the firing of the matches. The amount of phosphorus on the average removed on washing the hands was equal to 4 2 milligrammes per head per day of 10 hours. Professor Thorpe follows these experiments with a very interesting account of the match-works in the United Kingdom and the processes carried on therein, while a very exhaustive description is given also of the continental match-works and the special regulations in force in them. From the experience which he has gained in this inquiry he ventures the opinion that in the event of making any amendment of the existing special rules which may be thought desirable the examples of the regulations described in the report will supply all that is necessary upon which to base them, for it has been conclusively established, he adds, that where such rules are vigorously enforced phosphorus necrosis has almost entirely disappeared. As to a substitute for phosphorus, he concludes that a satisfactory one has not yet been found and no method of employing red phosphorus on the match head has been found to be commercially practicable in the production of a "strike anywhere" match. The evils attending the use of ordinary phosphorus can be greatly minimised by observing certain rules in regard to the medical and dental supervision and improving the conditions of environment.

With these conclusions the report of Dr. Oliver practically agrees and he has also had the opportunity of watching the processes of match manufacture as carried out in a number of works abroad. His verdict is summed up in the following sentence: "Under the circumstances, therefore, of experience having shown that methods of manufacture exist which are capable of practically excluding phosphorus necrosis from the industry, of the 'new strike anywhere' sesqui-sulphide match of the French Government still passing through its period of probation, and inventors busy at work, it is premature to recommend the total abolition of white phosphorus in Great Britain and Ireland." Dr. Oliver then epitomises a series of recommendations to be observed in order to avoid the toxic and destructive action of phosphorus fumes upon match-workers.

Dr. Cunningham's report is a very able and exhaustive piece of work dealing chiefly with the origin of phosphorus necrosis. The chief point of his inquiries is that he finds that in the absence of special arrangements for regular dental supervision the teeth are deplorably bad, a condition fostering necrosis of the jaw. According to Mr. Morton Smale phosphorus necrosis can only originate under the following circumstances: (1) when dental caries has exposed the pulp of a tooth; (2) during the healing process after tooth extraction; and (3) during the time there is some lesion of the gum. Like the previous observers Dr. Cunningham does not consider that the yellow phosphorus match trade presents any exceptional dangers which cannot be met by proper precaution, nor does he think that any case has been made out for the prohibition of yellow phosphorus. He recommends that certain special rules affecting the trade should be strengthened. These recommendations turn on a medical and dental examination of all persons engaged in the industries, of keeping a record of this examination as well as of a systematic periodical examination, on proper provision being made for preventing persons from working whose teeth are defective, and, finally, the provision of a supply of mouth-wash for the systematic use of the work-people. Dr. Cunningham's experience of a number of "strike anywhere" matches made without white or yellow phosphorus is that their use in commerce is not as yet practicable, while accidents of some severity have already occurred to those engaged in handling them even in small quantities.

These reports occupy a Blue Book of 236 pages which is very usefully illustrated, the subjects being the various machinery employed in manufacture, the position of the operative in relation to the phosphorus compound, the means of drawing away the fumes by an air exhaust, &c., while in Dr. Cunningham's contribution some excellent diagrams are given showing the condition of caries in teeth and of the nature of the disintegrating action of necrosis following the action of phosphorus fumes on decayed teeth. Our knowledge of the subject is decidedly enriched by the labours of these gentlemen, and the Government have now an opportunity of so regulating the manufacture of lucifer matches as to place the great number of workers in this important industry under conditions entirely free from reproach; for the import of the combined labours of these able investigators on the subject is that there need be no phosphorus necrosis where due care is taken and where regulations are strictly, yet not vexatiously, enforced.

QUACKS AND ABORTION:

A CRITICAL AND ANALYTICAL INQUIRY.

VIII.[1]

DURING the past few weeks the attention of many not usually interested in such matters has been directed to a murder in a house near Tottenham-court-road owing to the fact that the woman believed to have been the victim has now been arrested abroad and is likely to be charged with the commission of the crime. It will apparently be suggested against her that the murdered woman died in consequence of an illegal operation and that she and those who performed it were brought into communication by means of an advertisement in a German newspaper published in London—the *Londoner General-Anzeiger.* We call attention to the advertisement because whatever bearing it may or may not have on the case in question, and whatever may be the degree of guilt or innocence of the woman under arrest, it is an advertisement akin to those against the unchecked publication of which we are protesting. Headed "Private Confinement," it offers, accompanied with secrecy, advice and help in women's troubles, while other similar advertisements accompany it in the columns in which it appears. Further comment at the present stage would be out of place.

Privat-Entbindung.

Diskret. Rat und Hilfe in Frauenleiden erteilt Frau Briesenick, 8 Whitfield Street, Tottenham Court Road

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We give below a second list of newspapers published in Great Britain and Ireland which have during the past few weeks contained advertisements of persons who profess more or less openly to sell abortifacients, or whose goods are liable to be bought by ignorant women seeking to put an end to their pregnancy owing to their claiming to "cure all obstructions" or to "correct all irregularities, remove all obstructions, and relieve the distressing symptoms so prevalent with the sex" The names printed after those of newspapers are names of persons with whose trade we have dealt in detail in our previous articles.

LIST OF PAPERS.

Aberystwith Observer
Ashbourne News
Bedford Express
Bedford Mercury
Bideford Gazette
Boston Independent
Bromley Journal
Bury Free Press
Cassell's Saturday Journal
Chester Chronicle.
Christian Leader.
Colchester Mercury.
Dorking Advertiser.
Dover Express
Dundee People's Journal
Dunoon Herald.
Epworth Weekly Herald.
Framlingham News
Freeman's Exmouth Journal.
Horncastle News (Davis).
Ilfracombe Gazette
Independent.
Irish Times
Isle of Man Times
Isle of Wight Times
Islington Gazette
Kent and Sussex Courier (Blanchard, Martin).
Kettering Guardian
Kettering Leader.
Leighton Buzzard Reporter.
Lichfield Mercury (Blanchard, Ottey).
Lisburn Standard
Liverpool Weekly Post
London Morning
Maidstone Journal
Manx Sun.
Market Rasen Mail.
Middlesbrough Evening Telegraph (Ottey).
Midland Counties Advertiser.
Midland Herald.
Mirror of Life
Monmouth Beacon (Davis)
Montgomery County Times (Blanchard)
Montrose Review.
Moonshine
Morecambe Times (Blanchard)
Newry Standard.
News
Northampton Mercury.
Oundle Guardian
Oxford Chronicle
Paisley Gazette.
People (Davis)
Peterborough Evening News
Portsmouth Times
Royal Cornwall Gazette.
Salisbury Express.
Shrewsbury Chronicle
South Eastern Gazette.
South Wales Daily News.
Sussex Weekly News
Swansea Journal (Blanchard).
Swindon Advertiser.
Tonbridge Standard
Tunbridge Wells Advertiser (Heseldine).
Weekly Bradford Observer.
Western Press
Worcester Daily Times.

At the Hackney Coroner's Court on Monday last Dr. Wynn Westcott held an inquiry respecting the death of an unfortunate woman who died from hæmorrhage consequent on abortion. Evidence was given that the deceased had attempted to obtain medicine for certain purposes from Madame Frain. The jury returned a verdict to the effect that "The deceased's death was due to syncope, the result of hæmorrhage, consequent on abortion, for which no cause has been proved, and the jurors having heard the evidence as to the manner and conduct of the business called that of 'Madame Frain' are of opinion that the business is either fraudulent or felonious." The coroner said that "Madame Frain's" business had at one time a most evil reputation, and THE LANCET had designated the advertisements issued by the firm as "disgusting" No steps had been taken by the proprietors to disprove the insinuation, so he concluded that they did not wish the truth or otherwise of THE LANCET's statement investigated.

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[1] Articles I., II., III., IV., V., VI., and VII. were published in THE LANCET of Dec. 10th, 17th, 24th, and 31st, 1898, and Jan. 21st, Feb. 4th, and March 11th, 1899, respectively.

ARMY MEDICAL REPORT FOR 1897.[1]

SECOND NOTICE.

THE Army Medical Report for 1897 with its appendices forms a voluminous publication of some 600 pages altogether. We have already given a first notice of it in THE LANCET of March 11th, 1899, p 718. These reports are valuable in that they contain a mine of information of one kind and another likely to prove of interest to medical officers belonging to the armies of this and other countries. Apart from the health statistics, accompanied by a running commentary for their elucidation and for bringing into prominence the principal features in the medical events which they chronicle, there are numerous articles dealing with the progress of hygiene, especially army hygiene, military medicine and surgery, together with reports on the medical history of any campaigns in which this country has been engaged, papers from the delegates to different congresses, and contributions by individual officers on subjects about which they have either had any exceptional experience or in which they have taken any special interest. We propose, however, to confine our attention in the present article to such points as have occurred to us in turning over the pages of the report. Those who are desirous of going into statistics or of verifying the statements contained in the text can do so by turning to the tabular abstracts, but few people care to encounter a *chevaux de frise* of figures unless compelled to do so or without having some special object in view. We may consequently put these abstracts altogether aside as far as we are concerned and content ourselves with what we find in the remainder of the volume. The report leads off with a copy of the instructions furnished for the guidance of medical officers regarding the revised "Nomenclature of Diseases" (1896 edition) published by the Royal College of Physicians of London and adopted by the Registrar-General. It became necessary, of course, for the Army Medical Service to follow the nomenclature used in civil life in order to ensure for statistical purposes conformity in the classification of diseases and to afford one and the same basis of comparison for both. Alterations of the nomenclature of diseases are obviously necessary from time to time but the result is occasionally somewhat embarrassing to non-medical readers, such as members of the House of Commons who sometimes turn to these reports for evidence for or against the Contagious Diseases Act, for example. *Apropos* of this we may say that in the summary remarks on the health of the troops at home and abroad on page 2 of the report it is stated that the decline in venereal diseases amongst the troops at home which commenced in 1886 and which has practically continued without interruption ever since is again observed in 1897, the greatest decrease being in primary venereal sores. A very marked variation has been noted, however, in the prevalence of these diseases at individual stations. We have always held that one of the principal results of the operation of the Contagious Diseases Acts was the moral and social improvement noticeable in those towns and garrisons where they were in operation. There is no doubt that they exercised a restraining influence on the lax and immodest conduct of many thoughtless girls through fear of their behaviour attracting the notice of the police. It is to be feared that it does not at all follow that the number of cases of this class of disease in any given locality is any reliable measure or indication of its sexual morality. Be this as it may, however, we find that taking all forms of venereal diseases together the admissions in the United Kingdom numbered 13,490 and the constantly sick 1205·31. The total ratio of admissions for these diseases was 139·7 and that of constantly sick 12·48 per 1000; these ratios being lower than those of the preceding year and lower also than the average of the preceding 10 years.

The districts showing the greatest prevalence of venereal diseases were the Dublin, Western, Belfast, and Woolwich. The lowest rates were in the Cork, Scottish, South-Eastern, and North-Western districts. Compared with the distribution of venereal disease in the previous year increase is observed in the admission rates of the Belfast, Channel Islands, and Woolwich districts, but in all the others decrease has occurred, the most marked being in the Western district, in the North-Eastern, in Aldershot, and in the Scottish district. There is no need to advert to the prevalence of diseases of this nature among European troops in India for it is already a matter of common knowledge and serious concern. Turning, however, to the troops serving in China we can form some estimate of the scourge which this class of disease may become. Including all forms, the total admission rate in 1897 amounted to 668·4 per 1000, being a marked increase on that of the previous year and as much as 313·7 higher than the average ratio for the preceding 10 years. The Principal Medical Officer remarks that the statistics of the past two years indicate a persistent and rapid increase both in the number of cases and in the rate of constant inefficiency from these causes, which, if it continues, will probably necessitate a permanent increase in the hospital establishment at Hong-Kong. The contrast between the admission rate for these diseases at Gibraltar and Malta is also noteworthy, 282·7 at the former as against 166·3 per 1000 at the latter station.

As regards the health statistics of the different arms of the service serving in the United Kingdom we find that in 1897 the highest rate of admission was in the Infantry, the next in the Cavalry, and the lowest in the Royal Engineers, the next lowest being in the garrison staff and departments. The highest mortality rate occurred in the Foot Guards, 4·20 per 1000, the next being 4·19 per 1000 in the regimental depôts. In the previous year the highest rate was in the regimental depôts and the next highest in the Royal Artillery. The lowest death-rates in the year under review occurred in the Household Cavalry with 2·54 per 1000, and in the Infantry with 2·78 per 1000. Invaliding was highest in the Infantry, next in the Foot Guards, while the lowest rates occurred in the Royal Engineers. The highest rate of constant inefficiency from sickness was in the Foot Guards with 63·03 per 1000, followed by the Infantry with 44·79 per 1000. The lowest rate, 17·75 per 1000, was in the Royal Engineers, the next lowest being in the garrison staff and departments. The same arms, in similar order, furnished the highest and lowest rates in the preceding year.

The total number of invalids admitted into Netley Hospital from abroad during the year 1897 was 2638, of whom 23 died, 962 were discharged to duty, and 1429 were invalided from the service. It may be here remarked that the Hermite system of sewage disinfection which was installed at this institution some years ago is reported to be working satisfactorily.

A good deal of attention has of late been directed to the provision of accommodation for sick and convalescent soldiers, and we regard this measure as a very important step in the right direction on the part of the present Government. It amounts to a scandal that the nation should not take all reasonable means of aiding soldiers who have been disabled or who have lost their health in its service, and an obvious way of attempting of doing this is by utilising any available accommodation at such stations as afford climatic and other advantages for the establishment of sanatoria or convalescent depôts. A beginning, although on a very small scale, has already been made in this direction. Scarborough and Tynemouth were used for the purpose in 1897. Two classes of convalescents are transferred to these depôts—namely, men who require no hospital treatment but who have not regained strength sufficiently to return to duty and men who require change of air in aid of hospital treatment. For the former barrack-room accommodation is provided. 24 of the latter class were transferred—viz., 22 to Scarborough and 2 to Tynemouth. The Principal Medical Officer remarks that almost all the patients have derived great benefit and the expense has been small.

This system is capable of being largely developed and, we make no doubt, with distinct advantage not only in the way of humanity to the sick and disabled soldier but with benefit to the State in the restoration of many men whose services are now lost to the army by their being permanently invalided—to swell the sick and death-rates as well as to increase the poor-rates of the civil population. At Fleetwood there should be available accommodation. The health of the troops is very good there, and the medical officer in charge regards it as one of the healthiest stations in England and suitable for the transfer of cases from other stations requiring change of air. In the Isle of Wight also—at Golden Hill Fort, for example, when a new hospital is built—there should be excellent positions for accommodating suitable cases requiring change of air and certain climatic conditions for their recovery from attacks of serious or acute diseases and pulmonary complaints. Many other stations will also offer advantages for the establishment of army sanatoria, and some of them should be on inland sites for seaside resorts do not suit all patients returning from foreign service.

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[1] Army Medical Department Report for the Year 1897, with Appendix. Vol. xxxix. London: Printed for H.M.'s Stationary Office by Harrison and Sons, St. Martin's-lane. 1898. Price 2s. 11d.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE fifty-eighth sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Tuesday, March 7th. The Commissioners *present* were Lord Llandaff, the Right Honourable John Mellor, Sir John Dorington, Mr. de Bock Porter, Mr. Robert Lewis, and Major-General Scott. The witnesses examined were Mr. William Whitaker, F.R.S., formerly senior officer of the English staff in the Geological Survey; Mr. Richard Hack, engineer to the Chelsea Company; Mr. Ernest Collins, one of the engineers to the New River Company; and Mr. George Corble, clerk to the Lee Conservancy Board.

Mr. WHITAKER, in answer to the CHAIRMAN, said that he had given evidence as a witness before Lord Balfour's Commission, partly at the request of the Commissioners and partly on behalf of the London County Council. He had given great attention to the water-bearing strata of Kent and he was of opinion that there was an abundant supply of water there. A great part of the district had a very sparse *population.* With regard to the *amount of rainfall which* percolated the witness said that the calculation showed that the annual percolation was 40,000 gallons of water *daily to the square mile. As a basis of the calculation* of the amount of water which the area produced the witness had taken about half the amount of rainfall as the percolation unit. He had prepared figures in such a way as to show what the available amount of water was supposing that one-third of it percolated, in case half of it percolated, *and in case one-eighth percolated.*

In answer to Mr. MELLOR the witness said that the amount which percolated depended on whether the rainfall were on low or on high ground. On high ground it took longer to percolate than on low ground, and in answer to Major-General SCOTT the witness admitted that it was impossible to say what amount of water did actually percolate.

In answer to the CHAIRMAN the witness said that he *thought that roughly it might be assumed that one-third of the* rainfall percolated. Occasionally a rainfall of three inches might send two inches into the ground and another rainfall of three inches might hardly send any for the water evaporated or got soaked up by the vegetation. The amount which percolated depended greatly on the period of the year at which the rainfall took place; for instance, in the summer the *amount of percolation* was small.

The CHAIRMAN said that Lord Balfour's Commission *assumed that an annual percolation of seven inches was a* proper average to take. The witness said that his impression was that seven inches was an under-estimate. He thought the amount was not less than eight inches. If the amount of percolation was seven inches a year the total annual amount would be 34,500,000 gallons on a daily average, and if the percolation were eight inches it would amount on a daily average to 39,000,000 gallons throughout the year.

Major General SCOTT pointed out that that amount of water *would only* be available if it could be *pumped up from* wells or given off by springs after it had percolated. The witness admitted that a *fair allowance* would have to be made for the water which it was not possible to obtain, but that amount depended very much upon what works were *undertaken to get it.*

Major-General SCOTT suggested that even if a tunnel a mile or two long were made it would not necessarily follow that all the water would be intercepted. The witness thought that very little water would pass over the tunnel.

Major General SCOTT *pointed out that it might* pass under it, and the witness said that that would depend on the depth of the tunnel, and if it were driven parallel with the Thames on the sea level the water on its way to the Thames would be intercepted.

In answer to the CHAIRMAN the witness said that he thought that 9,000,000 gallons of water a day could be obtained from the *greensand in the area of the Kent* Company and that it would be possible to obtain from the chalk from 43,000,000 to 59,000,000 gallons daily.

With regard to the present supply from wells in the Kent Company's district the witness said that he was told that 9,000,000 gallons were obtained daily at Deptford, and that in the *Ravensbourne area 2,000,000* gallons were obtained at Shortlands. With regard to the part of Kent outside the area of the Kent Company the witness thought that *150,000,000 gallons a day could be obtained,* and this amount and the 60,000,000 gallons which could be obtained in the area made a total of 210,000,000 gallons.

In answer to Mr. MELLOR the witness admitted that it would not be possible to get the whole of this water, but he thought that it would be possible to get a good deal of it. He admitted, however, that underground water was such a very doubtful subject that it was impossible to speak with certainty on the matter. At present, however, only half the *60,000,000* gallons which he estimated as a possible amount are obtained in the area of the Kent Company.

Mr. RICHARD HACK, *in answer to Major-General* SCOTT, said that the Chelsea Company were increasing the capacity of their reservoirs at Molesey. The work now being carried on is that the banks of the existing reservoirs are being raised so that their capacity will be increased to 50,000,000 gallons. This will be sufficient for a 14 days' supply. The depth of the reservoirs will be 23 ft. One of the reservoirs was cleaned three years ago. It was the custom of the company to clean each reservoir periodically once every eight years. The amount of deposit which was found was one inch of dry sediment. The lowest four feet of the reservoir contained water which would quickly block a filter bed if it were put on it. The bottom water contained a large amount of solid matter in suspension and if this were used the filters would have to be cleaned much more often than they are at present. The solid matter would be deposited on the surface of the filters and it would not be economical to use such water. The Chelsea Company were in the habit of closing their intake from the Thames in time of flood. They *did this because flood water contained a large amount of* matter in suspension and this had to be deposited. Moreover, flood water was discoloured, so that it was impossible to get rid of all the colour by filtration. The witness said that for these reasons it was better to avoid taking flood water altogether. *He did not think that the inferiority of flood* water was entirely overcome *by means of filtration.* If it were used it would be necessary to have larger reservoirs or a larger filtration area.

In answer to Mr. DE BOCK PORTER the witness said that he did not think it was necessary that reservoirs should be cleaned once in eight years. It was the practice of the Chelsea Company to clean them so frequently because they had to deal with a large quantity of deposit. They obtained something like 1000 cubic yards of deposit from an area of eight acres.

In answer to Mr. MELLOR the witness *explained* that the bottoms of the reservoirs were not paved but consisted of ballast gravel and that the reservoirs were made watertight *by puddle* walls which *passed* down to the London clay.

In answer to the CHAIRMAN *the witness said that it was not necessary* that the bottom of the reservoirs should be puddled because the water could not pass through the layer *of clay* and the bottom of the reservoir was 12 ft. above it, *so that there were 12 ft. of gravel into* which the water in the reservoir could sink.

In answer to Mr. MELLOR the witness said that it was not *necessary* that this gravel should be washed.

The CHAIRMAN pointed out that the allowance of four feet for bottom water was *nearly one-fifth and it did not agree* with the figures which had been given by Mr. Middleton.

In answer to Major-General SCOTT the witness said that they occasionally took water which was turbid into their reservoirs, but they never did so when they could avoid it. They preferred when possible not to take flood water for nine days after a flood, sometimes they were obliged to take it more quickly, but the shortest period at which he remembered having taken water was four or five days after flood.

In answer to Major-General SCOTT the witness gave a description of the construction of the filter-beds used by the company (this information has already been given in THE LANCET of March 6th, 1897).

In answer to Mr. DE BOCK PORTER the witness said that the usual duration of the life of a filter until it was cleaned was nine weeks; at the end of that time the sand had to be washed.[1] The longest time which the witness had known a filter to last without clogging was 16 weeks and the shortest period was five or six weeks. He had never found it necessary to clean one more frequently than once in five weeks.

In answer to Major-General SCOTT the witness said that the maximum amount of water which they could pass through their filters collectively was about 14,000,000 gallons; if more water were wanted they would equalise the work by drawing from the Putney reservoirs. (The reservoirs at Putney are capable of storing 11,000,000 gallons.) The slowest rate of filtration which they allowed to occur before disusing a filter was about one a half gallons per square foot per hour. He did not know of a case in which they had been obliged to exceed the rate of two and a half gallons per square foot per hour. He did not think that regulations with regard to filtration which had been recommended by Lord Balfour's Commission were necessary in the case of the Chelsea Company. At the present time each filter-bed was not supplied with a separate well but one was to be provided as soon as it could be made. The witness did not think that there would be any advantage in having an automatic arrangement to record the rate of filtration but would rather depend on the method which he adopted of using standard gauges on the sand; he had less confidence in an apparatus but he had never seen one at work. He thought that an automatic record would be a good thing if it were reliable but for his own part he preferred the method which was at present in use, that of personal supervision.

In answer to Major-General SCOTT the witness said that they were placing sea sand on their filters at the present time and that this change had probably been adopted on the recommendation of Sir Edward Frankland.

Mr. ERNEST COLLINS, in answer to the CHAIRMAN, said that he had prepared some tables showing the saving which had taken place in the amount of water distributed by the New River Company since they had used Deacon's waste meter system and had visited the houses of their customers to see in which the loss of water was taking place. The public had very generally accepted and adopted the use of the fittings which the company had previously examined at their testing office[2] and which they stamped. In the case of new houses stamped fittings were used in 95 per cent. of the cases and in most of the other cases the apparatus used was now good. The fittings which they examined were tested and the witness attributed most of the success which they had had in suppressing waste to the use of properly tested fittings of good manufacture and in his opinion water consumers should be compelled to use such fittings.

The tables which the witness put in showed the rate of supply per head in the district of Shoreditch, comparing the consumption in 1882 previously to the introduction of the waste meter system with the consumption after its introduction in 1893-4 and up to the year 1898. The amount supplied daily per head had been reduced from 35·8 gallons to 15 gallons.

The CHAIRMAN asked the witness how he separated consumption of water from waste of water, and the witness explained that as a rule water was not used between the hours of 12 midnight and five in the morning, and that water which passed through their mains at that time was, as a rule, wasted by the customer through defects in the fittings.

The CHAIRMAN remarked that it seemed from the evidence of the witness that there must be an enormous amount of water wasted in the districts of some of the metropolitan water companies.

Major-General SCOTT pointed out that the average daily consumption per head in the district of the Grand Junction Company is 48 gallons and the chairman remarked that it was 42 gallons in the case of the Southwark and Vauxhall Company.

An interesting table was put in showing the supply per head per day in the Tudor-street district of the city where the supply was for printers and for other traders and utilised by day and by night by a shifting population. In this district the population is 1082, the average daily consumption per head is 59·4 gallons, of this consumption 32·8 gallons are used during the day and 26·6 are "wasted" (used) during the night.

In answer to the CHAIRMAN the witness pointed out that in parts of their district an enormous quantity of water was "wasted" by watering gardens. Some customers allowed their hoses to run in the gardens all night. The company suffered most terribly in the summer time from those sprinklers which are put out in gardens to water lawns.

Major-General SCOTT said these were easily visible objects and suggested that their inspectors might object to their use.

The CHAIRMAN thought that if the customers paid for their water they might think they were entitled to use as much as they liked. The witness said that he was afraid that that was the case. The company endeavoured to check the "waste" (use) of water as much as possible and they remonstrated with the people.

Mr. GEORGE CORBLE, on behalf of the Lee Conservancy Board, gave evidence as to the pecuniary resources of, and the methods adopted by, the Board of which he is clerk.

The fifty-ninth sitting of the Royal Commissioners was held at the Guildhall, Westminster, on Monday, March 13th. The Commissioners present were Lord Llandaff (the Chairman), Sir John Dorington, Sir George Bruce, Mr. de Bock Porter, Mr. Cripps, Mr. Robert Lewis, and Major-General Scott. The witnesses examined were Mr. John Hollams, Mr. Urban Armstrong Smith (surveyor and engineering adviser of the Hertfordshire County Council), and Mr. Baldwin Latham, civil engineer, who gave evidence on behalf of the Hertfordshire County Council.

At the commencement of the sitting Mr. BALFOUR BROWNE, Q.C., on behalf of the London County Council, made a statement as to the policy which that body proposed to adopt. This statement was made in answer to a request from the CHAIRMAN who said at one of the earlier sittings that the Commissioners wished to know whether the London County Council desired that the Commissioners should advise that purchase of the water companies' undertakings was expedient on any terms of arbitration, or whether they wished them to find that purchase would be expedient only upon special terms of arbitration. Mr. Balfour Browne explained that his clients had reduced to writing the answer which they desired to make and he read a written statement in order that he should not himself put in a word that he was not authorised to state. The statement is as follows:—

We would point out that the doubt which still seems to be entertained by some members of the Commission is no doubt due to the fact that throughout the present inquiry the object of the committee has been, not so much to make one particular case which they ask the Commission to accept as to lay before the Commission all the information relating to the water-supply of the metropolis which several years of experience have enabled them to collect and upon which the Council's policy has been based. In order to enable *the Commission to* appreciate this policy the committee have laid before them the decisions arrived at by the *Council and the specific schemes* for the solution of the water question which the Council has presented to Parliament. The Council's Bill for the purchase of the eight companies is now before Parliament, and it contains a special arbitration clause which is the clause which was discussed before Mr. *Plunket's Com*mittee in 1895, and this clause affords in itself the answer to the Chairman's question—namely, that in the opinion of the *Council it* is expedient to purchase the companies upon special terms of arbitration. With regard to the question whether the *Council thinks* that purchase is expedient upon any terms of arbitration we would point out with the greatest respect that as the Council's definite proposal is now before Parliament and the Council's witnesses may at *some* time be called upon to substantiate it before a *Committee* of the House of Commons it is impossible for the committee to say anything that might be construed so as to commit the Council to accept any terms of arbitration that might be imposed *upon it.* At the same time the committee wish it to be *stated that* in their opinion it does not necessarily follow that the precise clause contained in the present Bill affords the only means of obtaining fair terms of arbitration. The Council's view has been that the *position of* the metropolitan water companies differs in many respects from that of similar undertakings with which Parliament has hitherto dealt, and its contention is that the fair value of the companies' undertakings should be ascertained by a court of arbitration of the highest *standing* with the fullest powers to inquire into all the circumstances of each individual case.

Mr. CRIPPS remarked that there was a reference to a Bill which had been brought in by the London County Council and of course the terms of this Bill were known to the metropolitan water companies. A question which seemed important was whether it was usual in private Bills to introduce a long preamble reciting the whole case as to the charges which the promoters made against other parties. He noticed that the preamble of the Bill extended to three or four pages and that it recited charges that were made against the metropolitan water companies in former times and he asked whether this was a usual course to adopt.

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[1] In the case of some of the other companies the filter beds are cleaned as a rule about once in five or six weeks. These companies take in flood water from the Thames.

[2] See the account of the workshop of the New River Company as given in THE LANCET of Dec. 4th, 1897.

Mr. BALFOUR BROWNE replied that they would of course have to prove the preamble of their Bill and that the practice with regard to the introduction of a long preamble differed very much in different cases but that as late as last year there was a long preamble in the case of the Tilbury Bill, for which Mr. Littler, Q.C., appeared as counsel.

Mr. JOHN HOLLAMS, on behalf of some of the metropolitan water companies, gave evidence with regard to a report on the London Water-supply of the Parliamentary Committee appointed in the year 1821, and with regard to a Government Bill which was introduced into Parliament in the year 1851. By this Bill it was proposed to amalgamate the companies, to constitute a board of directors consisting of 12 persons who were to be remunerated, and the compensation was to be settled by arbitration under the Lands Clauses Act The witness said that he gathered also from the proceedings that the companies were then paying about 6 per cent. on their capital. The arrangements proposed by the Bill were that a new water stock should be created to bear interest at 5 per cent., and that the existing rates were to be continued until there was a surplus and then the rates were to be equalised in the respective districts, then if there was again a surplus the stock was to bear interest at 6 per cent. and after paying 6 per cent. all the profits were to go to the consumers. The Bill contained a schedule to specify the rents which were to be charged, but this schedule was never filled up. The Bill was brought in under Lord John Russell's administration and a committee was appointed to make a report upon it After a great deal of evidence had been taken by the Parliamentary Committee on August 5th, 1851, Sir James Graham, chairman of the Committee, made in Parliament an explanation of his position and moved that the evidence which had been taken before the Committee on the Metropolitan Water Bill should be printed. He said that after an inquiry which had lasted between 30 and 40 days the House would probably expect that he should state how matters stood. The Committee had investigated the case on the part of the promoters of the Bill. That part of the evidence was complete. They had proceeded to take the evidence of those who contended for the advantages of establishing a control of the undertakings by some municipal body elected by the people. That part of the evidence was also complete. The evidence of the existing water companies had been given at considerable length but it was not finished. The Committee advised that the evidence should be printed with a view of affording information to the public. The Committee did not feel that they were in a position to give any opinion upon the evidence, and he therefore moved that it should simply be printed as it stood. In the following February Lord Seymour introduced a Bill into Parliament and this Bill was based on entirely different lines from those of the preceding one. In introducing the Bill Lord Seymour said that it would be best for the companies to act either separately or in conjunction as they might choose If municipal bodies, inexperienced as they were, were to be suddenly called together (divided, as doubtless would be the case, by party feeling) to supply water for the necessities of the town great delay would unquestionably arise. Lord John Russell's Government went out of office in 1852 and Lord Derby's first administration was formed Lord John Manners (who succeeded Lord Seymour in office) on March 25th, 1852, moved that it should be an instruction to the committee of selection that they have power to fix the committee on the Metropolitan Water Bill for April 1st. He said that he did not pledge himself to support the measure introduced by his predecessor in office because in one important item, that relating to the scale of charges, the Government of which he was a member dissented altogether from the previous one. In the meantime the companies had introduced Bills which resulted in their Acts of 1852 and the Government Bill went before a Special Committee. The Committee decided not to hear evidence on the preamble and Mr. Mellor, the counsel for the Government, proceeded to deal with the clauses Amongst other things Mr. Mellor contended that if a house were within the area of more than one water company he apprehended that the householder had a right to be supplied from which source he pleased. Ultimately a Bill was promoted which became the Metropolis Water Act of 1852.

Mr. URBAN ARMSTRONG SMITH, in answer to the Chairman, said that he had investigated on behalf of the Hertfordshire County Council the water levels in the chalk of that county and the factors which govern the rise and fall of the springs and streams. The CHAIRMAN at once informed the witness that the Commissioners had decided that they would not reopen those questions which were decided by the Balfour Commission, but they would hear the witness on any new fact which had occurred since the sitting of the Balfour Commission which would throw new light upon the subjects into which they had to inquire. The witness said that he considered it a matter of importance that the New River Company had shown consciousness that their supplies from the Lee were deficient because they had joined in the Staines Reservoirs Scheme. The drought in the year 1898 had thrown light on the subject of the diminution of the supply of water in Hertfordshire in a number of ways: the rivers have been lower than at any previous period, the wells had been very much lowered, and they had the great fact before them that Chadwell Spring which had never been known to be dry before had failed last autumn. In addition to these facts the rise in the River Lee was less than it had ever been before and the wells in the Lee valley were lower.

The CHAIRMAN remarked that the witness had prepared a large number of tables relating to the Chadwell Spring and asked from what source the figures were obtained. The witness replied that some of them had been given by Mr. Francis, the engineer of the New River Company through their representative, Mr. Hollams. One of the tables which was put in showed the average daily flow of Chadwell Spring in three-year periods from 1875 to 1898; another table showed the average daily flow in four-year periods; a third table showed the average daily flow in five-year periods; a fourth table showed the average daily flow in six-year periods; a fifth showed the average daily flow in seven-year periods, and a sixth table showed the average daily flow in eight-year periods. The table showing the flow of Chadwell Spring in three-year periods showed a decline of 43 per cent. between the averages of the three years 1875-77 and the three years 1896-98. During the second of those two periods the reduction in the rainfall was less than 16 per cent.

Mr. POPE, Q.C., said that some of the figures had previously been given to Lord Balfour's Commission and suggested that the witness "had manipulated the tables afresh."

Lord ROBERT CECIL replied that they had expressly avoided manipulating the figures: they restated the figures in another form in order to avoid the charge that they had manipulated them in any way and the tables showed that whatever way the thing was taken the result was the same—that is to say that there had been a steady decrease in the flow from Chadwell spring. (The figures were of very great interest but as they occupy many pages it is impossible that they can be reproduced in THE LANCET and it must suffice to state that they can by no ingenuity be made to bear any other interpretation than that given to them by Lord Robert Cecil.)

With regard to the entire failure of the spring in the autumn of 1898 Mr PEMBER, Q.C., pointed out that Mr. Francis had already explained that it was due to a "crack in the basin" and it was suggested that the company had pumped out the water in order to mend the crack. Major-General SCOTT, however, pointed out that if the basin had no aperture it would be impossible for any water to get into it.

The witness said that the well at Haileybury College had been greatly affected by the pumping at the station at Rye Common. According to the evidence of the bursar of the college the pump at Rye Common was not worked on Sundays and on that day there was a rise of water in the well of the college. During the autumn of 1898 the New River Company pumped water from the site of the Chadwell Spring and this pumping lowered the water in the wells in the neighbourhood. On this matter many details were given and plans were shown giving the level of the water in the wells at different dates. The witness said that Hertford is supplied by a well which is from 70 feet to 100 feet in depth, but the amount pumped from it was only 200,000 or 300,000 gallons daily and this direction of the Lord President of the Privy Council, a circular relating to an international conference respecting the adoption of precautionary measures against syphilis and venereal diseases to be held at Brussels from Sept. 4th to 8th, 1899, and stating that Her Majesty's Government, while not proposing to be directly represented at that conference, are of opinion that it might be desirable that the various medical corporations of the United Kingdom should, if they think proper, take steps with a view to representation thereat. Mr. Alfred Cooper was appointed a representative of the College and Mr. Hutchinson was requested to act also as a representative of the College.

A letter was read from Mr. E. White Wallis, secretary of the Sanitary Institute, stating that the Autumn Congress and Exhibition of the Institute will be held at Southampton on August 29th and following days and inviting the College to appoint two delegates to attend the Congress. Mr. Howard Marsh and Dr. Ward Cousins were appointed delegates.

Mr. BRYANT moved :

> That in view of the centenary in 1900 of the foundation of the College by Royal Charter a committee be appointed to consider and report to the Council whether any, and if so what, steps should be taken to celebrate the event.

The resolution was carried and a committee was appointed.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

Upon Measles in the Borough of Burton-on-Trent, by Dr. THEODORE THOMSON.[1]—Since his report upon measles in England and Wales, which appeared in the annual volume of the Medical Department of the Local Government Board for 1894-95, Dr. Thomson has continued his investigations in localities where, owing to the disease being compulsorily notifiable or to other circumstances, the etiology of measles and the application to measles of preventive measures can be advantageously studied. The last of Dr. Thomson's reports on the subject was upon a severe outbreak of measles in Lancaster in 1897. The present report deals with similar prevalence of the disease in Burton-on-Trent last year. In all 1015 cases of measles came to the knowledge of the local authority between Jan. 2nd and August 13th. The estimated population of Burton being 51,664, the attack rate per 1000 persons living was thus 39. Only 29 persons died, giving during these seven and a half months the low fatality rate of 14 per 1000 and a death-rate per 1000 of 0·56. The age distribution of the cases in respect of attack and death is given by Dr. Thomson in the following table :—

Age groups.	Estimated population.	Attacked by measles.	Deaths from measles.	Measles attack-rate per 1000 living.	Measles death-rate per 1000 living.	Measles fatality rate per 1000 attacked.
At all ages	51,664	2,015	29	39	0·56	14
0—1...	1,430	148	6	103	4·2	40
1—2...	1,425	217	11	152	7·7	50
2—3...	1,495	235	9	157	6·0	58
3—4...	1,356	309	1	228	0·7	3
4—5...	1,445	315	1	218	0·7	3
Under 5...	7,151	1,224	28	171	3·9	23
5—10	7,150	680	1	95	0·1	1
10 and upwards ...	37,363	111	—	3	—	—

It will be seen that, on the whole, the Burton experience accords with corresponding data which have been obtained in previous epidemics of measles. The chief incidence of *attacks* was in children in the second, third, fourth, and fifth years of life, and more especially in children in the fourth and fifth years, while the chief incidence of *deaths* was in children in the first, second, and third years, and more especially in those in their second year.

That the death-rate from measles in children under one year is commonly considerably less than the rate in children between one and two years has often been apparent from mortality returns. Until lately it has not been possible to do more than surmise whether this difference is due solely to a smaller frequency of exposure to infection which may be assumed in the case of quite young infants. Dr. Thomson's table shows that for Burton in 1898 this was not a complete explanation. The attack-rate for infants under one year was, it is true, less in the proportion of from two to three than the corresponding rate for children between one and two years. But the fatality rate in the first class of cases was also less, the ratio being from four to five. It must, however, be borne in mind that a good many inaccuracies almost inevitably arise in statements of the ages of infants and that the extent of this error is likely enough to be greater in notification of infectious disease than in certification of death. Before definite conclusions can be come to as to the meaning of the differing rates of mortality from measles at the several age-periods, statistics in such form as Dr. Thomson's tables are needed from a large number of different localities and for a series of years. Health officers of districts in which measles is compulsorily notified could in many cases furnish valuable information on this subject.

The relation of school attendance to the maintenance of the epidemic, and particularly to the excessive incidence of the disease upon children between three and five years of age, is discussed in detail in an appendix to the report. "There was no great extension of the disease," observes Dr. Thomson, "until it had gained a foothold among children attending school. This suggests that schools had a large share in the dissemination of measles." Closure of certain schools of the town was resorted to, but the benefit derived from school closure was not very pronounced, probably in large measure because there was too much delay in closing schools and because in invaded areas of the town certain schools were allowed to continue open when their neighbours had been closed on account of measles. The sundry precautions adopted by the Burton Town Council on the advice of Mr. T. Robinson, the medical officer of health, are set out at length and they contain much which calls for commendation and which might be applied elsewhere with prospect of advantage. And so far as the results of precautionary measures were found disappointing, they were chiefly to be attributed to the lack of thoroughness with which these measures were put into practice. "It is doubtful whether the sanitary staff suffices to cope with the ordinary work falling on the health department of a town the size of Burton; it is quite insufficient for the added labour of measures undertaken with a view to control an epidemic of measles." Dr. Thomson lays stress upon the great use of isolation in hospital of cases of measles if employed in inter-epidemic periods, when the isolation accommodation needed is relatively small and when the value to be obtained from isolation is at its greatest.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6694 births and 5099 deaths were registered during the week ending March 18th. The annual rate of mortality in these towns which had increased in the four preceding weeks from 19·5 to 22·2 per 1000 further rose last week to 23·3. In London the rate was 24·1 per 1000, while it averaged 22·8 in the 32 provincial towns. The lowest death-rates in these towns were 12·7 in Derby, 16·4 in Portsmouth, 16·5 in Hull, and 16·6 in Leicester; the highest rates were 28·0 in Oldham, 28·8 in Liverpool, 31·5 in Salford, and 31·9 in Manchester. The 5099 deaths in these towns included 417 which were referred to the principal zymotic diseases, against 437 and 409 in the two preceding weeks; of these 136 resulted from whooping-cough, 103 from measles, 88 from diphtheria, 37 from "fever" (principally enteric), 32 from diarrhœa, and 21 from scarlet fever. The lowest death-rates from these diseases were recorded in Croydon, Brighton, Cardiff, and Newcastle-upon-Tyne; and the highest rates in Wolverhampton, Salford, Blackburn, and Preston. The greatest mortality from measles occurred in West Ham, Manchester, Salford, and Leeds, from scarlet fever in Oldham, from whooping cough in Plymouth, Swansea, Birkenhead Preston, Bradford, and Hull, and from "fever" in Wolverhampton The 68 deaths from diphtheria included 45 in London, seven in Sheffield, five in Liverpool, four in Leicester, and three in Swansea. No fatal case of small pox was registered during the week under notice either in London or in any other of the 33 large towns, and only one small pox patient was under treatment in the Metropolitan Asylums Hospitals on Saturday last, March 18th The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2437 against 2584 and 2540 on the two preceding Saturdays, 224 new cases were admitted during the week, against 241, 236 and 217 in the three preceding weeks The deaths referred to diseases of the respiratory organs in London which had been 470 and 529 in the two preceding weeks, further rose last week to 565 and were 61 above the corrected average The causes of 71, or 1 5 per cent, of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in Bristol, Cardiff, Nottingham, Salford, and in nine other smaller towns, the largest proportions of uncertified deaths were registered in Liverpool, Blackburn, Preston, and Sheffield

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[1] London, Eyre and Spottiswoode, East Harding-street; Edinburgh, John Menzies and Co.; Dublin, Hodges, Figgis, and Co. 3d.

HEALTH OF SCOTCH TOWNS

The annual rate of mortality in the eight Scotch towns which had been 25 1 and 22 8 per 1000 in the two preceding weeks further declined to 21 0 during the week ending March 18th, and was 2 3 per 1000 below the mean rate during the same period in the 33 large English towns The rates in the eight Scotch towns ranged from 17 5 in Leith and 18 4 in Edinburgh to 21 9 in Glasgow and 27 3 in Aberdeen The 640 deaths in these towns included 34 which were referred to measles, 27 to whooping cough, 13 to diarrhœa, six to "fever," five to scarlet fever, and five to diphtheria In all, 90 deaths resulted from these principal zymotic diseases, against 99 and 67 in the two preceding weeks These 640 deaths were equal to an annual rate of 2 9 per 1000, which was 1 0 above the mean rate last week from the same diseases in the 33 large English towns The fatal cases of measles, which had been 33 and 13 in the two preceding weeks rose again to 34 last week of which 18 occurred in Glasgow and 12 in Aberdeen The 27 deaths from whooping cough showed a slight further decline from the numbers recorded in recent weeks and included 10 in Glasgow, nine in Edinburgh, and four in Dundee The deaths referred to different forms of "fever which had been six and four in the two preceding weeks, rose again to six last week, of which four occurred in Glasgow and two in Edinburgh The five fatal cases of scarlet fever corresponded with the number in the preceding week and included three in Glasgow where four of the five deaths from diphtheria were also recorded The deaths referred to diseases of the respiratory organs in these towns, which had been 213 and 172 in the two preceding weeks, further declined to 138 last week, and were 23 below the number in the corresponding period of last year The causes of 33, or more than 5 per cent, of the deaths in these eight towns last week were not certified

HEALTH OF DUBLIN

The death rate in Dublin which had been 31 9 and 28 5 per 1000 in the two preceding weeks rose again to 32 4 during the week ending March 18th During the past four weeks the death rate in the city has averaged 30 8 per 1000, the rate during the same period being 22 5 in London and 23 0 in Edinburgh The 217 deaths registered in Dublin during the week under notice showed an increase of 26 upon the number in the preceding week, and included 12 which were referred to the principal zymotic diseases, against 17 and 14 in the two preceding weeks, of these, 10 resulted from whooping cough and two from diphtheria, but not one either from small pox, measles scarlet fever, "fever," or diarrhœa These 12 deaths were equal to an annual rate of 1 8 per 1000 the zymotic death rate during the same period being 2 0 in London and 2 6 in Edinburgh, The fatal cases of whooping cough which had been five in each of the two preceding weeks rose to 10 last week, and exceeded the number recorded in any week since May, 1897. The two deaths referred to diphtheria also exceeded the number returned in any recent week The 217 deaths in Dublin last week included 35 of infants under one year of age and 58 of persons aged upwards of 60 years, the deaths both of infants and of elderly persons showed a slight further increase upon the numbers recorded in recent weeks Six inquest cases and three deaths from violence were registered, and 87, or more than a third, of the deaths occurred in public institutions The causes of 15, or nearly 7 per cent, of the deaths in the city last week were not certified

THE SERVICES.

Royal Navy Medical Service

Staff Surgeon Herbert Elliott Marsh has been promoted to the rank of Fleet Surgeon in Her Majesty's Fleet

Inspector General T H Knott will succeed Inspector-General H Macdonnell, C B, at the Royal Naval Hospital, Haslar, on the retirement of the latter officer in June next

The following appointments are announced —Staff Surgeon C Bradley to the *Colossus*, temporary Surgeon J C Fergusson to the *Victory*, for disposal

Royal Army Medical Corps

Lieutenant J S Gallie holds himself in readiness to embark for Mauritius Major A S Rose is ordered to St Helena and Lieutenant A E Weld to South Africa, for service Major C H Burtchaell has joined at Woolwich Major A Stables, on arrival in India, is attached to the Poona Station Hospital Captain Henry A Berryman is placed on temporary half pay on account of ill health

Army Medical Reserve of Officers

Surgeon Lieutenant Charles Edward Reading Bucknill, 2nd Volunteer Battalion the East Lancashire Regiment, to be Surgeon Lieutenant

Volunteer Corps

Artillery 1st Edinburgh (City) Robert Black Purves to be Surgeon Lieutenant 1st Forfarshire Surgeon Lieutenant J I Sturrock resigns his commission *Rifle* 2nd (the Weald of Kent) Volunteer Battalion the Buffs (East Kent) Regiment Joshua Law Kerr to be Surgeon Lieutenant 5th (the Hay Tor) Volunteer Battalion the Devonshire Regiment William John Stephens to be Surgeon Lieutenant 1st Nottinghamshire (Robin Hood) Surgeon Captain W J Sprott resigns his commission 1st London Surgeon Captain E A Hughes resigns his commission 1st Volunteer Battalion the Manchester Regiment John Orr to be Surgeon Lieutenant

Volunteer Medical Staff Corps

The Manchester Companies Surgeon Lieutenant W Gill resigns his commission, Surgeon Lieutenant A Phillips to be Surgeon Captain

The Late Outbreak of Fever at Quetta

The new Army Medical Blue Book for 1897 contains a long and exhaustive report on a severe outbreak of enteric fever among the British troops serving at Quetta during 1896 The report is by Major F R Newland, M B Dub R A M C The strength of the European garrison was 2 300, and between April 3rd and Dec 1st there were 141 cases admitted to the station hospital There has likewise been an outbreak of the same fever during the past year The *Army and Navy Gazette* states that a large number of soldiers belonging to that garrison died from the disease during the six months which ended on Dec 31st last Quetta has proved an exceptionally unhealthy station for some years past It was announced more than a year ago that in consequence of the heavy mortality from enteric fever among British soldiers the Government in India had under consideration a proposal to apply for the services of Dr Wright, Professor of Pathology at Netley

Deaths in the Services

Deputy Inspector General Joseph Jee, V C, C B (retired), Honorary Surgeon to the Queen, on March 17th, at his residence Queniborough Hall, near Leicester

Staff Surgeon J Rose (retired) at Chesterfield on March 7th aged 76 years He entered the Royal Navy as Assistant Surgeon in 1847 and served in the *Frolic* during 1848-52 He was at the insurrection of Cephalonia, 1849, and in the following year attended a cholera epidemic in his own vessel as well as on board the [illegible] On [illegible] to England he was appointed [illegible] Haslar Hospital

Correspondence.

"Audi alteram partem."

"DIFFICULTIES UNDER THE NEW VACCINATION ACT."

To the Editors of THE LANCET.

SIRS,—With your permission I should like to reply to the letters of "P. P." and "General Practitioner" in your issue of March 11th, and then I have done with the matter. Both these gentlemen seem to consider it "offensive," "undignified and unprofessional," and "irksome" to arrange *with their own patients* a suitable time for "vaccinating those babies they have brought into the world." Surely the family practitioner can settle so small a matter soon after the mother's confinement without loss of dignity, be he never so self-important. To say that such arranging for the child's vaccination at a later stage is either "unprofessional" or "offensive" is simply an abuse of language.

I am, Sirs, yours faithfully,
THOS. FREDK. I. BLAKER,
Preston Park, Sussex, March 20th, 1899. Public Vaccinator.

To the Editors of THE LANCET.

SIRS,—Your correspondent "Fairplay" now attempts to justify the new "duties" of the public vaccinator by declaring that it is also the duty of the private practitioner to visit and offer to vaccinate. I am certain that it is not his duty, and that such offers of professional services are most objectionable. The space for vaccinations in the ordinary visiting lists is for the names of those whom the practitioner has been asked to vaccinate, and for no others. "Fairplay" might just as well suggest that the space for obstetric engagements is for the names of those whom the practitioner has heard are *enceinte* and are to be called on with offers of professional services. Such visits are most offensive to many people who look upon them as an attempt to establish a medical tyranny; they are contrary to the ethical laws that govern our profession and must be irksome to most medical men. I hope, Sirs, when you give your ruling in this matter, you will not lend your countenance to this system of "calling for orders" which has been advocated by more than one of your correspondents.

I am, Sirs, your faithfully,
March 20th, 1899. P. P.

To the Editors of THE LANCET.

SIRS,—The list supplied to me this month by the vaccination officer contains the names of many children who were over four months old prior to August 31st, 1898, for me to notify and visit according to the new Vaccination Act.

The clerk to the board of guardians for this district has since informed me that the vaccination officer had no right to have given the names "of what I call defaulters and wholesale law breakers of the Vaccination Act" to me; he also told the vaccination officer that he should refuse to pay the account when sent in by me. By this I suppose he means the minimum fee of 1*s*. and the vaccination fee for these older children. As this may happen to other public vaccinators, may I ask you through the columns of THE LANCET if I cannot recover both minimum and vaccination fees in all cases of older children that I have notified, visited, and successfully vaccinated, also if I can claim the minimum fee for these older cases I have notified and visited but have not vaccinated? Will you also inform me how, when, and by whom the new Act provides for dealing with these older cases, as I have been asked time after time the following question: "Why are So-and-so and So-and-so who have children much older than mine allowed to escape and nothing done to compel them, whilst I am pounced upon, which is most unfair?" I think you will agree with me that these women made a very just complaint, and to my thinking the sooner these wholesale law-defiers are dealt with, the more general will vaccination become than it is at the present time.—I am, Sirs, yours faithfully,

March 20th, 1899. ANOTHER PUBLIC VACCINATOR.

"THE REMOVAL OF ADENOIDS IN INFANCY."

To the Editors of THE LANCET.

SIRS,—With reference to an annotation in THE LANCET of March 11th under the above heading an account of the following case may interest you. A female child, aged 14 weeks, was lately brought to the Birmingham and Midland Ear and Throat Hospital suffering from very marked obstruction to respiration and a diagnosis of post-nasal growths was made. Mr. F. Marsh, honorary surgeon to the hospital, decided to remove them at once. The child was placed under chloroform and the growths were removed with the aid of a small StClair Thomson forceps, after an attempt to use the finger had shown that thereby injury to the velum would ensue. The operation was entirely successful and in three days the patient left the hospital completely relieved. The child had been largely reared on starchy food.

I am, Sirs, yours faithfully,
R. FELIX RYLAND, M.R.C.S. Eng., L.R.C.P. Lond.,
House Surgeon to the Birmingham and Midland Ear and Throat Hospital.
March 14th, 1899.

UNRESTRAINED LUNATICS.

To the Editors of THE LANCET.

SIRS,—The difficulty in certifying mentioned in a leading article in THE LANCET of March 11th is met by medical men joining the Medical Defence Union which supplies a form of indemnity against actions to its members. During recent years I have declined to certify in cases of insanity unless such a form is signed by the petitioner; in no case in my experience has that indemnity been refused, although it has sometimes been signed reluctantly. The production of that document to a lawyer or a court would be proof that "reasonable care" had been taken. None conversant with this subject can dispute your observation that the state of the law concerning it is unsatisfactory; but when we obtain the indemnity we are no longer liable to "vexatious, harassing, and costly litigation."

I am, Sirs, yours faithfully,
March 20th, 1899. STANLEY HAYNES, M.D. Edin.

HUNTER *v.* CLARE: AN APPEAL.

To the Editors of THE LANCET.

SIRS,—Permit me through your columns to appeal to the profession for subscriptions to a fund for the assistance of the widow of the late Mr. Kingsley Hunter, L.S.A., of Gamlingay. Her pathetic letter published in your issue of March 11th caused me to enter into communication with her in order to get her sanction for this letter. She informs me that the whole of their capital was expended in the purchase of the practice at Gamlingay, which was utterly ruined by the prosecution of her husband, and she is left penniless and will soon be homeless. I sincerely hope that a practical expression of the sympathy which I am sure most of my professional brethren must have for her will be the outcome of this appeal.

Cheques should be made payable to "The Hunter Fund" and may be sent to Gillett's Bank, Oxford, or to

Yours truly,
RIVERS WILLSON.
42, Wellington-square, Oxford, March 20th, 1899.

To the Editors of THE LANCET.

SIRS,—Referring to Dr. Major Greenwood's letter in your last issue I earnestly hope that some effort will be made to assist the unfortunate Mrs. Hunter. I should be quite willing to give a small subscription and I think there must be many others throughout the country who would be glad to contribute their "mite" if only to show their disapprobation of the prosecution of the late Mr. Hunter.

I am, Sirs, yours faithfully,
M. L. DHINGRA, M.D. Edin., D.P.H. Camb.
Finsbury-park-road, N., March 20th, 1899.

To the Editors of THE LANCET.

SIRS,—I shall be happy to give a small contribution towards any fund that may be raised for Mrs. Hunter.

Personally, I strongly disapprove of the action of the General Medical Council in instituting this prosecution and I think Mrs. Hunter is deserving of much sympathy.

I am, Sirs, yours faithfully,
ROBERT A. FRYER, M.B. Edin.
New North road, N., March 22nd, 1899.

"SALIPYRIN IN INFLUENZA."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of March 18th appears a letter from Dr. Butler Harris drawing attention to the excellent results obtained by the use of salipyrin in influenza. As I have been using a similar compound for two or three years with most rapid relief of the headache, backache, fever, and malaise of influenza, and without any untoward symptoms following its use, I beg to submit it to the readers of THE LANCET. The formula I generally use is as follows: acetanilide, 30 grains; spirit of chloroform, two drachms; spirit of camphor, one drachm; salicylate of soda, one and a half drachms; water to six ounces; one ounce to be taken every four hours until relieved. In dispensing this, owing to the slight solubility of acetanilide, the spirit should be added first and the water added by degrees. The mixture contains always light flocculent crystalline masses floating near the surface and directions have to be given that the mixture must be well shaken each time of taking. Even in cases where the pulse is most feeble I have seen rapid improvement without the slightest bad symptom, evidently owing in some measure to the stimulating effect of the camphor and alcohol. In most cases the sense of relief is attended by copious perspiration. The cost of the above combination is so much less than salipyrin that I recommend it especially to those practitioners who like myself have a great number of poorer-class patients who cannot afford to pay for very expensive prescriptions. I have three times had occasion to use it myself when attacked by influenza and each time with rapid convalescence, and in over 100 cases among my patients the compound has been invariably successful.

I am, Sirs, yours faithfully,
H. LYON SMITH, M.R.C.S. Eng., L.R.C.P. Edin.
March 12th, 1899.

SURGERY OF PANCREATIC TUMOURS.

To the Editors of THE LANCET.

SIRS,—In the discussion on Mr. Barker's paper at the Clinical Society of London[1] I said that Krönlein had removed a *tumour*, not a "cyst," as reported. It was an angio-sarcoma "as big as a fist." His original communication, with a fine coloured drawing of the post-mortem appearances, will be found in the *Beiträge zur Klinischen Chirurgie*, vol. xiv., 1895, p. 663. A solid tumour of the pancreas, if not left alone altogether, must be taken away, as there can be no question of drainage.

I am, Sirs, yours faithfully,
ALBAN DORAN.
Granville-place, Portman-square, W., March 21st, 1899.

"THE INFECTIOUSNESS OF PHTHISIS."

To the Editors of THE LANCET.

SIRS,—I see that in an annotation in THE LANCET of March 18th dealing with the action brought by the Leas Hotel Company against the executors of the late Radclyffe Hall it is stated that a witness for the defence said that my father, the late Dr. C. E. Fitz-Gerald, had certified the cause of death wrongly. I think it is a thousand pities that I was not called as a witness in the case, as I also saw the deceased once during life, my father having seen him twice, and having ample opportunity to ascertain the nature of the disease I could have positively asserted that in my opinion *my father's* certificate was right and that acute pulmonary phthisis was the cause of death. I have already certified the same for an insurance company and have also carried on a correspondence concerning the disinfection necessary with both the manager of the hotel and also the solicitor to the deceased. It is extremely unpleasant to us to have my late father's certificate impugned.

With regard to a matter appearing in THE LANCET of March 11th, 1899, concerning my late father's paper entitled "The Just Position of Bacteriology," may I be allowed to state that I have no acquaintance whatever with Mr. Maurice L. Johnson and that his letter quoting my father's late paper was entirely outside my knowledge? The paper was my father's last and the view taken was a favourite one with him and I published it out of respect for his memory.

I am, Sirs, yours faithfully,
E. D. FITZ-GERALD, M.R.C.S. Eng., L.R.C.P. Lond.
Folkestone, March 20th, 1899.

MONOPOLIES IN THERAPEUTICAL MEASURES.

To the Editors of THE LANCET.

SIRS,—The letter of Mr. Tallerman which appeared in THE LANCET of March 18th supports only too strongly the grave objection which I have long felt in common with many balneologists in this country to the altogether unnecessary interference on the part of lay inventors in the domain of therapeutics. No department of medical practice is perhaps more open to exploitation of this objectionable character than that presented by balneological therapeutics, but it is only within the past four or five years that we have been confronted by a new and more grave aspect of this evil. Hitherto we have been accustomed to the competition of that large army of unqualified practitioners (male and female) which derives such wide support at the hands of a credulous public, but now we are met by claims on the part of outsiders the character of which will be better realised when the profession has had time to grasp their full significance.

The medical profession, in this country at least, is made up very largely of men who devote a great part of their lives and much money to investigating disease and devising methods for the alleviation and cure of human suffering, and "cursed" in the eyes of his professional brethren would be the medical man who refused to make known any useful discovery or who by patent law or otherwise should limit to his own selfish ends the therapeutic value of any method of treatment whatsoever. Is it tolerable, then, that we should be asked not only to sanction but to support outside the profession practices which we justly condemn within our own ranks? In expressing these views I hold no brief for any particular hot-air apparatus. In truth, although I recognise certain advantages pertaining to each I consider them all to be more or less mere adaptations of principles and methods long known in balneological practice.

In conclusion, and briefly, I would put the case thus. If the medical profession does not possess men sufficiently scientific and inventive to devise suitable and efficient apparatus to carry out its own *methods of treatment* let us at least demand from the outside inventor, as a condition precedent to our recommending or using his apparatus, that he shall apply to it the same principle of free and unrestricted use which we are ourselves in the habit of applying under similar circumstances.

I am, Sirs, yours faithfully,
Buxton, March 18th, 1899. SAMUEL HYDE.

"THE TALLERMAN TREATMENT AND ITS COUNTERFEITS."

To the Editors of THE LANCET.

SIRS,—I have read with surprise Mr. Tallerman's letter in your issue of the 18th inst. ...... In reply to the letter I may safely leave the press and the profession to take care of themselves. With regard to myself I totally deny the suggestion that I was aware of any apparatus at Mr. Tallerman's or elsewhere of a similar character to my own being in existence at the time my patent was granted and in this opinion I am supported by a leading firm of patent agents, who, at my request, made a most exhaustive search at the Patent Office. . ...

I am, Sirs, yours faithfully,
ARTHUR E. GREVILLE.
Upper Berkeley street, Portman-square, W.

⁂ This controversy must now cease in our columns. We omit certain personalities from Mr. Greville's letter.—ED. L.

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[1] THE LANCET, March 18th, 1899, p. 763.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The General Hospital.

THE present time of the year is one in which the local charitable institutions hold their annual meetings. Prominent among these is that of the General Hospital, the 119th report of which has just been issued. The Board of Management state that the ordinary income in the year 1898 was £15,028, against £11,000 in the two preceding years. The extraordinary income was £7677, against £8050 in 1897, when the proceeds of the Musical Festival amounted to £5000. The number of in-patients last year was 4913 and of out-patients 60,128. The ordinary expenditure was £23,490 8*s.* and the extraordinary £500 19*s.* 6*d.* The report points out that a considerably increased income is necessary to maintain the demands of the new hospital. A systematic inquiry has been conducted into the social circumstances of the patients applying for treatment, the result of which it is promised will be carefully considered; but while it is only right that first aid should be rendered to all cases of accident or sudden emergency, continued treatment should only be given to those who are not in a position to pay for medical attendance. An ophthalmic surgeon, a dental surgeon, and a radiographer have been added to the staff by which additions the usefulness of the hospital will be increased.

The General Dispensary.

The annual meeting of the governors of this institution was held on Feb. 22nd. The 105th report showed that the amount received from subscriptions together with supernumerary tickets was £5452, from investments £879, from donations £1122, and from legacies £1268. The expenditure showed an advance of £374 arising from an increase in the medical staff. The number of patients admitted by ticket was 40,434. The average cost of patients was 3*s.* 10*d.* and a fraction. Dental cases and accidents numbered 7396. The Lord Mayor who presided expressed the opinion that the governors were right in appealing to the suburban districts by their branches, and he deprecated the paying of subscriptions through the Hospital Sunday Fund instead of the ordinary channels.

The Training Institution for Nurses.

The committee in their annual report express their satisfaction in the undiminished activity and usefulness of this institution. They regret to announce the death of Mrs. Diamond who for 23 years had performed the duties of superintendent with the greatest ability. During the year 584 families had been attended. The number of nurses on the staff was 73. The income exceeded the expenditure by £46 and a sum of £100 had been paid to the sinking fund. A separate place for quarantine and a sanatorium was pointed out as a great advantage, as also the addition of a handsome pension fund for nurses who might be disabled after 10 years' service.

A Hospital for Diphtheria.

The advisability of establishing a hospital for the treatment of diphtheria has been the subject of some correspondence with the Health Committee. There is practically no provision in the health equipment of the city for meeting this difficulty and the advantages of obtaining such a hospital have been forcibly pointed out. There is always a reluctance on the part of the authorities to admit such cases into the general hospitals and it is feared some hesitation on the part of nurses to take charge of such cases, not so much from fear of infection and danger to themselves as from the risks of a possible lengthy illness and convalescence. There is said to be accommodation of an ample kind at the small-pox hospital, where the unused part ought to be set aside for such cases. This is a suggestion which demands attention and no doubt will receive the fullest consideration by the Health Committee.

Allegation of Cruelty.

Considerable comment has been made on the action of a police constable who tested the consciousness of a woman who had been assaulted by her husband. The officer in order to ascertain the woman's condition thrust a needle under the thumb-nail of the woman; she did not feel it at the time, but subsequently complained of much pain at the spot. The case was considered by the Watch Committee of the City Council who ascertained that no harm was done though such a test should not have been applied by the officer. The local press express the opinion that they thus justified an illegal act.

March 20th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Children and Epileptics at Crumpsall.

SOME questions interesting to our profession have recently been discussed by the Manchester Board of Guardians. At one of the meetings it was proposed to renew a subscription of 10 guineas to the Cancer Pavilion and Home, and it was stated that "the hospital provided a permanent home for pauper patients who could not be properly treated at their homes," and also "that they could not deal with those special cases at the Crumpsall Hospital." Was it intended that the State hospitals, as they may be called, such as the large and well-appointed institution at Crumpsall, should be relieved of their chronic and incurable cases by sending them to hospitals supported by voluntary subscriptions? As to the ability to deal with special cases at Crumpsall one of the guardians very properly said that they "ought not to detract from the ability of the medical staff," and as a matter of fact the Manchester guardians have for many years past, in addition to their very competent resident medical officers had the advantage of visiting physicians and surgeons of the highest attainments, capable of dealing with any cases coming under their care quite as well as if they were placed in special institutions. The proposal to continue the subscription was lost. At the last meeting of the guardians, Mr. Jenner Fust, the Poor-law Inspector, made some strictures with regard to the accommodation for female epileptics, saying that the yards were very small and got very little sun. As there was land behind he thought that they could be enlarged without any very great expense. It is satisfactory to learn that there has been a considerable decrease in the number of ophthalmic cases and Dr. Reynolds says that it seems to be permanent. In years gone by it was a great scourge among the children at the workhouse. Mr. Fust said it would be very desirable if the whole of the children could be removed from Crumpsall "where the quarters were not the best for children" and were required for other classes. At the workhouse, of course, all the surroundings are pauperising for the children who, if they know no other life, grow up simply to perpetuate the race of paupers. That, indeed, was so throughout the country, but happily better ideas now prevail and more intelligent efforts are made to help them to a less degraded life. The schools of the guardians at Swinton, though of the type now called barrack schools, have been for many years admirably conducted, and Mr. Fust thought that the children should be taken there. He was "pleased to see that the committee had been working in harmony with, and together with, the Society for the Prevention of Cruelty to Children." The chairman of the Crumpsall and the Swinton committees promised that Mr. Fust's suggestions should be carefully considered.

Influenza in Manchester.

Manchester is suffering from a considerable prevalence of influenza and some inconvenience has been caused, it is stated, in factories and workshops and various other places of business. One employer has had 20 per cent. of his workmen away with the influenza and, as he puts it, "other reasons," the disease being the excuse. The many and sudden changes of weather lately have no doubt had a good deal to do with the catarrhal attacks also very prevalent. In these days almost every cold in the head is called influenza, but undoubtedly both what may be called the specific and non-specific catarrhs have caused much sickness. Last week the deaths from all kinds of chest disease were 103 and the week before 92, but it is hoped that the tide will soon turn. But it is never safe to prophesy, and so far as the weather has any influence, that of the last few days has been of a character to justify any of the epithets used in dispraise of March. Salford has fared better than Manchester, Broughton, or Pendleton. Adults have been chiefly affected while children have escaped. At the board schools while influenza has attacked many of the teachers it has spared the scholars. Happily this visitation of the disease is less severe and less fatal than some former epidemics.

The Explosion of Ether at the Rochdale Workhouse.

The recent explosion of ether at the Rochdale workhouse by which the superintendent nurse lost her life and another nurse was very seriously injured is a matter which should be carefully investigated. According to the evidence at the inquest opened on March 14th the surgery is a small room with two doors having spring locks. There was a narrow high cupboard containing "bottles of ether and medicine." One nurse sat with her back to the fire, apparently taking an inventory of the bottles, and the other was counting those on one of the upper shelves, when an ether bottle accidentally fell against another bottle and, "being thin at the neck, broke." There was an immediate explosion, blowing out some of the window glass and setting fire to the furniture and woodwork. The superintendent nurse was found in a semi-conscious state, while the other managed to get out though badly burned. The coroner adjourned the inquest for a fortnight in the hope that the surviving nurse would be able to tell them how the explosion occurred and to give an opportunity for the attendance of the inspector of explosives. The inquiry into this deplorable occurrence will, it is to be hoped, lead to an explanation of the fact that the nurses seemed to have the management of the "surgery" and presumably were allowed to dispense.

Isolation Hospitals.

For some time past a strong feeling has existed in many parts of Cheshire against making what is now considered the necessary provision against epidemic visitations. At Lostock Gralam and at other parish meetings in Mid-Cheshire resolutions were passed the other week "condemning in the strongest terms the attempt of the Cheshire County Council to force upon the Northwich rural district a large and costly isolation hospital for the treatment of infectious diseases." There are wooden structures in existence which were described as adequate for the requirements of the district. The county council have intimated that an inquiry will be made as to the provision of joint or separate hospitals for the Northwich and Winsford urban districts. The question "is provoking much feeling in Mid-Cheshire." The feeling arises probably not so much against sufficient provision being made as from the fear of the extravagant and unnecessary spending of money sometimes indulged in by public bodies.

March 22nd

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh University Court.

AT a meeting of the Edinburgh University Court on March 13th Dr. Andrew Davidson (Edinburgh) was appointed Lecturer on Diseases of Tropical Climates for a period of three years from May next. The Court approved of the arrangements proposed by the Senatus under which Dr. E. W. Carlier should carry on the work of the Chair of Physiology until the end of the current session and also, in conjunction with the additional examiner, the work in connexion with the ensuing examinations in physiology for graduation in medicine and science. The Court, on the recommendation of the Senatus, resolved to institute a lectureship in diseases of the skin and appointed Dr. W. Allan Jamieson (Edinburgh) as University lecturer on that subject. In connexion therewith the Court approved of a recommendation of the Senatus that in addition to the two courses, one of which candidates for medical degrees are required to attend, that there should be a further option of "a course of clinical instruction in diseases of the skin, given by a University lecturer or by a recognised teacher at not less than 20 meetings in the wards of a recognised hospital or in the wards of a hospital and in a dispensary, both recognised for the purpose." At the same meeting intimation was made of a bequest of anatomical drawings to the University by the late Sir John Struthers, Emeritus Professor.

The Chair of Physiology in Edinburgh University.

It is understood that the following gentlemen are candidates for the chair of Physiology in Edinburgh University: Dr. D. Noel Paton, a former assistant of Professor Rutherford and for many years lecturer on Physiology in the Edinburgh Extra-Mural School; Professor G. M. Stewart, Cleveland University, Ohio; Professor Waymouth Reid, Dundee College; Professor Schäfer, University College, London; Professor William Stirling, Owens College, Manchester; and Professor Anderson Stuart of Sydney.

The Edinburgh University Rectorial Address.

On the afternoon of March 14th Lord Balfour of Burleigh delivered the rectorial address to the students of Edinburgh University in the McEwan Hall—the first occasion on which the McEwan Hall had been used for the Lord Rector's address. The proceedings having been opened with prayer, Professor Sir Ludovic Grant, Dean of the Faculty of Law, presented Lord Balfour of Burleigh for the honorary degree of Doctor of Laws. After the degree had been conferred Lord Balfour delivered the address, taking as his subject, National Character and the Function of the Universities in forming the Character and in Preserving, Developing, and Strengthening it. He spoke of the pride which they felt in the national character. They had a right to say, looking back on the past that the nation possessed certain distinctive qualities of which they did well to be proud and in which their pride was an inspiring and not a foolish thing. As a nation they had grown from the age of small things by a cautious courage and a spirit of prudent adventure; they had been ready to hide their differences and to draw closer in moments of common danger; they had adhered to certain ideals, had made their rule over subject nations a synonym for prosperity, and had shown that they could maintain justice as the guiding star in every department of administration. Had they not shown that they were ready "to take up the white man's burden" in every corner of the world, and had they not as a nation striven to recognise their responsibilities? On what did this national character rest? He believed that national character was not a mere instinct or tradition, not only a dominating temperament, but a matter of intellectual and moral discipline to the application of which they must attend and for which they were, each in their own place, individually responsible. He suggested that the foundation of this discipline was to be found in university life rightly understood. Intellectual training was the soundest and most essential foundation for national character. It was a purblind and prejudiced view that looked on the universities as places which are divorced from life's activities instead of the recruiting depôts from which the armies of practical life are to be reinforced.

A Complimentary Dinner to Dr. John Wyllie.

The members of Professor Fraser's clinique at the Edinburgh Royal Infirmary entertained Dr. John Wyllie to dinner on March 16th. Mr. Arthur Preston presided over a company of between 70 and 80. Mr. T. Grainger Stewart and Mr Ramsay Munro acted as croupiers. Dr. Slight and Dr. Gilmour, the resident physicians, were also present as guests. In proposing the health of Dr. Wyllie, the chairman said that in taking steps to have Dr. Wyllie appointed as interim professor of clinical medicine Professor Fraser had never more thoroughly manifested the interest which he took in his students. When Professor Fraser announced that Dr. Wyllie would discharge his duties the announcement was received with acclamation by the large class of clinical medicine. At that time the present generation of students knew of Dr. Wyllie by reputation. They now knew how well earned was that reputation; there was one hour in the day to which they had all looked forward with pleasure, and that was the hour which they spent with Dr. Wyllie. Personal contact with Dr. Wyllie had endeared him to all who had the good fortune to be members of his clinique. The students of Professor Fraser felt themselves each under a personal obligation to Dr. Wyllie for having undertaken the duties which Professor Fraser in his absence had imposed on him. Dr. Wyllie, in replying, expressed the pleasure it had been to him to be once again among medical students whom he delighted to teach and have around him. Professor Fraser's health was proposed by Mr. Bashford. Mr. Munro proposed "The Ward, its Residents and Nurses." Dr. Slight, Dr. Gilmour, and Mr. Stewart replied. The health of the chairman was proposed by Dr. Wyllie. Members of the company provided singing and music and a very enjoyable evening was spent. During the winter Dr. Wyllie has gathered round him the largest clinique in the Royal Infirmary, upwards of 120 men attending. Notwithstanding so large a number Dr. Wyllie's method of teaching has been such that equal benefit has accrued to all.

School of Medicine of the Royal Colleges, Edinburgh.

The number of students attending the classes of the school during the winter session now closing was 1217.

Dealing with the Slums in Aberdeen.

The municipal corporation has now acquired all the property scheduled under the Aberdeen Improvement Scheme Provisional Order which deals with an unhealthy area adjoining Exchequer Row. It has been resolved to take down a number of the dwelling-houses in the interior of the area so as to admit light and ventilation to the narrow, foul-smelling alleys or closes. A large building on the margin, at present used as a private common lodging-house, is to be converted into a tenement dwelling-house for occupants to be displaced by the demolitions and the other common lodging-houses in the area are not to be re-let. There is, however, room for about 125 more lodgers in the recently opened corporation lodging-house in East North-street.

Sanitation in Aberdeenshire.

The reports by the sanitary inspectors of the eight districts of Aberdeenshire for 1898 show that the sanitation of the villages in the county as to water-supply, drainage, and scavenging is, generally speaking, good, and that there is a continued advance in the sanitary condition of workmen's dwellings in the rural localities.

Enforcement of the Vaccination Act in Aberdeen.

At the last meeting of the Aberdeen Parish Council a letter was read from the Local Government Board intimating that the Board was quite unable to countenance the procedure of the council in failing to renew the prosecution of defaulters under the Vaccination (Scotland) Act, and pointing out that before taking extreme measures an endeavour could be made to remove objections by offering glycerinated (and therefore sterilised) calf lymph from the central institution which was conducted under the auspices of the Government. The parish council resolved that in purchasing lymph from the central institution the council should obtain a guarantee that the lymph was pure and would produce no injurious effects, so that medical officers might be in a position to certify the quality of the lymph to those objecting to vaccination, and that consideration of the Board's letter be deferred till a reply was received.

St. Andrew's Ambulance Association.

This association which has centres in various towns of Scotland has now been incorporated by Royal charter.

Inter-University Athletic Sports.

It is stated that sports have been arranged between the Universities of Glasgow, Edinburgh, and Aberdeen, and that the first meeting will take place in Aberdeen in May or June next.

March 22nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland.

MR. MCARDLE of St. Vincent's Hospital recently made an accusation of religious partiality and bigotry against the Royal College of Surgeons in Ireland in an address which was published in the morning papers. The *Irish Times* of March 20th contains a reply and refutation in the form of a letter signed by the four Roman Catholic members of the Council of the College. This communication quotes what Mr. McArdle is reported to have said—viz.: "That out of the numerous class of Catholic students, many of them distinguished, it has failed to select one to occupy any position of trust or emolument. Occasionally a paltry examinership is offered to some safe gentlemen for spite and the Council has thrust upon it or absorbs a unit from the body to which we belong." The letter points out that in addition to four Catholic members of Council elected by the College there are three examiners elected by the Council all professors in the Medical School of the Catholic University—namely, Dr. Birmingham, Dr. Coppinger, and Dr. Smith. It regrets that up to the present there is no Catholic Professor in the College, but makes the remark that as an indication of the liberal temper of the College of the three candidates who were recently nominated for commissions in the Royal Army Medical Corps two were Catholics. The above letter was signed by Mr. Meldon, Mr. Lentaigne, Mr. Chance, and Dr. Cranny. Mr. McArdle's accusation has fallen flat, for he had the honesty to mention that he himself was a rejected candidate for an examinership in the College. It had, however, the effect of eliciting a letter from Mr. Myles, the Vice-President of the College, and a leading article in the *Irish Times*, as well as the letter just described, all in defence of the College.

Mater Misericordiæ Hospital, Dublin.

The following appointments were made on March 16th: Martin Dempsey, M.D., M.R.C.P. Irel., to be physician; and John O'Donnell, M.B., B.Ch. R.U.I., to be assistant physician. Arrangements are being made to establish a convalescent home in connexion with this hospital, now the largest clinical hospital in Ireland.

The Death-rate of Belfast.

The present Lord Mayor of Belfast (Mr. Otto Jaffe) has frequently drawn attention to what has been the universally admitted low estimates made by the Registrar-General (who lives away from Belfast in the atmosphere of Dublin) of the population of Belfast. According to the census in 1891 the inhabitants of the city numbered 255,950, but since that date the population has gone on increasing, so that now the Registrar-General calculates the death-rate on an estimated population of 308,960. The city accountant of Belfast estimates the present population as at least 356,184 and he arrives at this figure by allowing 4·40 persons to each of the 80,951 ratings in the city, the census returns of 1891 showing that there were 4·75 persons to each rating, and the Belfast city accountant reduces this 4·75 by 0·35 for vacancies and so arrives at his estimate. When recently in Dublin the Lord Mayor interviewed the Registrar-General on the subject and he undertook to reconsider the matter if he could have an authenticated return of the vacant houses which had lately been quoted by certain Dublin newspapers as from 12,000 to 14,000. As a result the Belfast police on March 13th took a census of the vacant houses and found only 5540. The reasons for there being these vacant houses are that a number are built during the winter when general employment is scarce and these are not occupied until May. Again, many houses are calculated in this number which are not quite finished, being without gas-fittings or water-pipes, and there is also a desire to abandon the old class of houses which have not yet had their sanitary arrangements remedied. Further, there is a tendency, owing to the extension of the tramway lines, to live further away from the centre of the city. As a result of this house census it turns out that the Lord Mayor's estimate of from 358,000 to 360,000 as the population of Belfast is not far from the mark, but if even the figures of the city accountant (356,184) are adopted by the Registrar-General instead of his own calculation, 308,960, it will completely alter the health statistics of Belfast, and show that the published death-rate is much too high. The whole discussion shows that statistics give anything but safe conclusions unless there can be no question of the correctness of the figures.

The late Dr. OHara of Ballymena.

At a largely attended meeting of the friends of the late Dr. O'Hara held in Ballymena on March 15th it was decided to inaugurate a fund, to be called the "Dr. O'Hara Memorial Fund," with the object of perpetuating the memory of the late Dr. O'Hara in Ballymena and the surrounding district where he practised. A large sum has already been subscribed

Irish University Education.

It is generally thought here that after the Duke of Devonshire's speech last week so far as the existing Government and the present Parliament are concerned the Irish University question will not be touched and that Mr. Balfour's promised changes will for a time be postponed. Two reasons for this course are assigned—first, the anti-ritualistic wave which is said to be passing over England and, secondly, the failure to come to a clear and definite agreement with the Roman Catholic hierarchy in Ireland. It was that body which left Mr. Gladstone in the lurch when he tried to settle the question in 1873 and it is said that Mr. Balfour was determined that until he got a clear and definite pledge from them that they accepted his solution of the question as final he would not attempt to advocate the question any further. Irish university matters are now in a worse condition than ever. All parties are dissatisfied with things as they are and yet when an attempt is made to come to a settlement there would seem to be much opposition from some as well as apathy on the part of others who are calling out most loudly that there must be a change.

The Prevention of Consumption.

The Lord Mayor of Belfast having received requisitions signed by a large number of members of the medical profession as well as by representative ratepayers of the city has convened a public meeting of the citizens to be held in the Town-hall on Tuesday, April 4th, to consider the desirability of taking steps to form in the city a branch of the National Association for the Prevention of Consumption and other forms of Tuberculosis. Sir William Broadbent, Bart., M.D. Lond., is coming to speak at the meeting.

The Nursing Circular of the Local Government Board.

The recent circular issued by the Local Government Board requiring nurses to be trained in clinical hospitals is causing considerable discussion and bad feeling. Dr. J. O. Hall, J.P., surgeon to County Monaghan Infirmary and medical officer of the Monaghan Workhouse Hospital, having been requested by the board of guardians to state his opinion of this nursing circular did so fully and freely as a man of his thorough independent character would be expected to do, whereupon the guardians received a letter from the Local Government Board in which they declared that they communicated with Dr. Hall who admitted that his observations as formulated by the clerk of the union were correct. The Board go on to say that "they consider it would be subversive of all discipline in the Poor-law service if the officer who is bound to conform to the regulations was permitted with impunity to use language the object of which is to encourage resistance to the orders issued for the guidance of the local authority and its affairs. In the case of an officer of Dr. Hall's rank and standing the offence is particularly serious and in the event of its repetition would lead the Local Government Board to consider whether he was any longer fitted for the position of medical officer of the workhouse." It need hardly be said that this threat of the Local Government Board to instantly dismiss a man of Dr. Hall's position should he on any further occasion dare to express an opinion adverse to any circular which they may formulate is deeply resented by the medical profession.

The Glenties Medical Libel Action.

This case which has occupied several days in hearing at the county Donegal Assizes in Lifford concluded on March 20th. It was an action brought by Mr. Kelly, dispensary medical officer, Glenties, against the proprietor of the *Londonderry Sentinel* and two members of the Glenties Dispensary Committee for libel against all three and for conspiracy against the two latter, the other defendant having been struck out of the count for conspiracy. The whole matter, as the judge in his summing up pointed out, turned on the question whether a resolution (accusing the medical officer of neglect of duty) which formed the subject matter of the alleged libel was not duly passed at a certain dispensary meeting, but was "hugger-muggered" through after the ordinary business and sent to the *Sentinel*, and that it was for the jury to say, the judge pointed out, whether there was a conspiracy on the part of the two members of the Dispensary Committee. The judge said he could not see how the apology which had been made by the editor of the *Sentinel* could be fuller. The jury found for the medical officer as against the two members of the Dispensary Committee and awarded £100 damages on each count, and found for the defendant, the editor of the *Londonderry Sentinel*. They held that there was negligence but not gross negligence in the publication of the resolution complained of.

The Holidays of the Irish Poor-law Medical Officer: A New Rule.

A circular was received by the Cork Board of Guardians from the Local Government Board intimating that in future Poor-Law medical officers will be entitled to a month's annual holiday and that substitutes must be paid by the guardians. One of the guardians present at the meeting

be obliged to pay £350 a year for medical substitutes and whilst he did not object to their medical officers getting a holiday he considered that the guardians ought to have had some previous intimation on the subject in order that the financial aspect of the question might be adequately discussed. He then pointed out that if the order had been issued in the year 1897 half the £350 would have been paid by Government, but now the total sum must come out of the local rates. Other guardians took the same view and a resolution was unanimously adopted calling on the Local Government Board to provide half the cost of the substitutes for the medical officers of the union. It was also decided to forward a copy of the resolution to all the other boards of guardians in Ireland with a view to concerted action. It must be satisfactory to the medical officers to find that it was to the incidence of cost and not to the principle of paying the substitutes that the guardians objected.

A Homicidal Lunatic.

Last week a terrible tragedy was enacted in Kerry. A young man named O'Donnell became suddenly mad, belabouring his mother till he had reduced her head to a pulp. He then threw her out on the road and rushed off in a half-nude state, attacking everyone who chanced to come in his way. One of his victims hurried to a police station for assistance and fortunately the constables were soon able to grapple with the unfortunate man and prevent him from doing further mischief. He was promptly transferred to the Killarney Asylum and it is stated that this is the third occasion on which it has been found necessary to commit him there. Two years ago when living on a small island he armed himself with a pitchfork and attacked the other islanders who were obliged to barricade their houses. He has been under restraint during the past eight months and was regarded by his relatives as quite recovered. Now an important question for the general public, and no doubt an anxious one for medical superintendents of asylums, is—how should lunatics with homicidal tendencies be dealt with during what may prove to be mere lucid intervals? On the one hand, are they to be permanently deprived of their liberty and maintained by the ratepayers? and, on the other hand, must those residing in their immediate vicinity look forward to the possibility of being at any moment butchered in cold blood?

March 22nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Wounds of the Abdominal Wall with Extrusion of Intestine.

AT the meeting of the Society of Surgery held on March 1st sundry cases of successful operation for wound of the abdomen with extrusion of the intestines were narrated. M. Regnier showed a patient upon whom he had operated for a wound of the abdominal wall accompanied by extrusion of one metre of intestine and this perforated in three places. He drew a comparison between this case and that of a woman upon whom he had also operated successfully for extrusion of the intestine through the ruptured scar of an umbilical hernia. M. Bazy related a successful operation by M. Faure for a wound of the abdomen with protrusion of two metres of intestine. M. Tuffier related the case of a patient operated on by his house surgeon for a gunshot wound in which the gut was perforated in eight places. M. Pozzi referred to a case in which a sudden hernia took place in a woman who had been quite recently operated upon by laparotomy. Her recovery was as equally uneventful as in the other cases cited.

The Campaign against Pulmonary Tuberculosis amongst the Poor.

Dr. Latulle, physician to the Boucicaut Hospital, who has already tried in his wards experimental isolation of tuberculous patients and who has for some time past strenuously advocated the erection of sanatoria for tuberculous patients, has published an article dealing with the whole subject which has excited much attention. In this article he enters an earnest protest against the slowness with which the Assistance Publique deals with the reforms so necessary in the matter. He criticises severely the system which obtains in the Paris hospitals of setting apart wards for tuberculous patients, a system productive of no good results, inasmuch as those actually dying from tuberculosis are herded together with those in whom the chance of recovery is by no means remote. It is impossible to treat this last class which is by far the most important and the numbers of which Dr. Latulle estimates at from 3000 to 4000 per annum in the manner so necessary for their condition without removing them from the middle of the town. Dr. Latulle sums up his conclusions very neatly as follows. He would have special wards in the hospitals for the incurable cases of tubercle, for in such cases the hygienic treatment is useless and if carried out would represent an enormous expense quite out of proportion to the good which might accrue in possibly an exceptional case. Further, for such tuberculous patients as offered a chance of cure and were either unwilling or unable to leave Paris he would have small wards built where the treatment by air, rest, and feeding could be begun and carried on during the time that the patient was being urged to go to one of the country sanatoria. For the building and maintenance of these last he would allot the greater part of the money now spent upon prophylaxis—although this has its uses—and upon treatment. At the present moment there are no sanatoria in France such as exist in other countries for the use of the poor who suffer from tuberculosis. Except the convalescent homes for tuberculous children which do a great deal of good there is but one sanatorium actually at work in France—that at Cimiez, which makes up 20 beds. At Lyons the Hauteville Sanatorium has just been built and is on the point of being opened. It contains 100 beds. At Amiens, Havre, Rouen, and Orleans such buildings are only in the projection stage. Paris has her sanatorium at Augicourt which has cost an enormous sum, the money to pay which has yet to be found. It contains 300 beds and although finished two years ago has not yet received a single patient. The expense of keeping up the place is a terrible lesson for the administration of the Assistance Publique. For the future it is intended to build only small sanatoria but many of them, and the actual buildings are to be put up as cheaply as possible so as to supply more beds. Unhappily, the generous sacrifices made in France for the carrying on of the warfare against tuberculosis have been mainly expended upon architects and builders and, as at Augicourt, there is no money left for the patients after the buildings have been erected.

The Treatment of Tetanus by Intra-cerebral Injections.

At the annual meeting of the Society of Surgery held on March 8th, M. Quénu read the notes of five cases of tetanus treated by intra-cerebral injections of tetanus antitoxin. The first case, which had been under the care of M. Beunier, was that of a woman, aged 48 years, in whom tetanus developed eight days after the infliction of a wound. Chloral, morphia, and lumbar puncture were all tried in order to relieve the spasms but in vain. Recourse was therefore had to intra-cerebral injections, but the patient died. The second case was that of a young girl in whom the injections were used some days after the onset of the disease. She died also. M. Quénu mentioned three other cases, in all of which a fatal result occurred. On the other hand, he felt bound to mention that M. Villon had reported two cases in which cure had followed treatment by injections both intra-cerebral and subcutaneous. M. Quénu concluded by saying that the prognosis in a case of tetanus was most uncertain. According to M. Peyrot and M. Berger good results have been obtained from excision of the focus of infection. M. Chaput and M. Ricard have each reported a case of death after intra-cerebral injections. M. Lucas-Championnière said that no treatment could be definitely recommended. He had seen patients with tetanus die after amputation and others recover. If a case turned out badly it was not right to blame the medical man for having pursued one course of treatment rather than another. The curative value of either amputation or the use of serum was still far to seek.

Notes on News.

M. Napias, the head of the executive department of the Assistance Publique in Paris, has made it known to the public that the out-patient departments of the hospital will in future be available on Sundays and holidays. As on ordinary days the doors of the out-patient department will be open from eight o'clock in the morning until nine. The doors will then be shut. The new regulations will come into force on Sunday next, March 26th.

Dr. Durand Fardel died on March 20th from pneumonia at the age of 48 years. The deceased was a member of the Academy of Medicine and an inspector of the State mineral water-springs. He has done very good work and was a Chevalier of the Legion of Honour.

March 22nd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Utility of Gargling.

THE utility of gargling in diseases of the throat has been denied by several observers, as, for instance, by Dr. Kantorowicz. Gargles nevertheless continue to be prescribed by the majority of medical men and constitute one of the principal methods of treatment in those cases. In order to ascertain whether there are valid reasons for maintaining this practice Dr. Sänger has made some experiments the results of which he has published in the *Münchener Medicinische Wochenschrift*. He points out that the therapeutic utility of gargling depends on whether the fluid employed reaches the pharyngeal mucous membrane and the tonsils or not, and for the purpose of arriving at a definite conclusion he brushed the tonsils of a patient with methylene blue and made him afterwards gargle with water. In the result the water when rejected from the mouth was colourless, neither was there any blue tint visible in the interior of the mouth although the tonsils continued to be intensely blue. Obviously, therefore, the fluid had not reached the tonsils. The same result was obtained in every instance. In another series of experiments the velum, a portion of the tongue, and the tonsils were dusted with wheat-flour, after which the person made use of a gargle consisting of a solution of iodine in glycerine, the consequence being that the velum and the tongue showed the blue colour of starch acted on by iodine, whilst the flour on the tonsils was neither coloured nor washed away. Dr. Sänger therefore concludes that gargling is useless and that where this kind of local treatment is indicated it would be better to swab the pharyngeal mucous membrane with pieces of cotton wool, avoiding brushes, which are liable to injure the mucous membrane.

Operative Treatment of Pulmonary Gangrene.

Professor Körte, surgeon to the Urban Hospital, recently exhibited before the Berlin Surgical Society a patient on whom he had operated for gangrene of the right pulmonary apex. The man was 32 years of age and became ill five weeks before with pyrexia, cough, and fetid expectoration. As the disease progressed considerable fragments of the lung were coughed up and a large cavity in the right apex was recognised by percussion. The patient was accordingly admitted into the surgical department of the hospital and an operation was performed. A large circular incision was made under the clavicle extending to the axilla and a piece of the second rib was resected. The pleural cavity was found to be obliterated. There was a stratum of normal tissue one centimetre (0·4 inch) in thickness and then the thermo-cautery penetrated into an extensive cavity filled with putrid material. A large pulmonary "sequestrum" was situated at the entrance of the principal bronchus. The patient made a comparatively quick recovery and his lung now contains a large cavity with a healthy granulating surface.

The Balneological Societies.

The congress of the Balneological Societies was opened on March 3rd, Professor Liebreich being in the chair. The first address was delivered by Professor Klemperer on dietetic methods followed at health resorts. Dietetic treatment at mineral water health resorts was, he said, essentially the same as at home, being modified only by the chemical or physical qualities of the springs. A patient suffering from obesity ought to live at home in the same way as in Marienbad, eating and drinking in moderation, but not necessarily according to precisely formulated rules. The quantity of food must, of course, be diminished, especially the amount of fat and carbohydrates, and abuse of alcoholic liquors must be forbidden. Too prompt a reduction of weight may be followed by nervous troubles. In gout there are not as yet scientific data on which to found standards of diet, the causes of the disease not being completely known. Generally a vegetarian regimen is to be recommended, but in a certain number of serious cases it is essential to maintain the patient's strength by the use of a mixed dietary.—Dr. Immelmann discussed the diagnosis of pulmonary tuberculosis by means of the Roentgen rays. The rays in passing through the normal lung filled with air do not cast a distinct shadow on the fluorescent screen, but pulmonary infiltrations give rise to a comparatively deep shadow. With a series of patients suffering from pulmonary catarrh a shadow was obtained on the screen and after four months the patients were found to be phthisical. In another series of cases where the lungs on transillumination gave no shadow the patients were all found to be in good health after the lapse of four months. The Roentgen rays may therefore be useful in diagnosis under certain circumstances.—Dr. Schuster of Nauheim exhibited skiagrams of patients with heart disease.—Dr. Sarason of Hamburg described Finsen's treatment of lupus by exposure to electric light which has an irritating and bactericidal action penetrating to the deeper strata of the skin. The published results showed 146 cures among 296 patients; 84 were still under treatment. The average duration of the treatment was four months.—Professor Liebreich read a paper on the strong defensive power which the cells of the human body are capable of exerting against micro-organisms as proved by the researches of Metchnikoff. The healthy and vigorous cell is able to destroy the bacteria or to immure them as in pulmonary tuberculosis. It must therefore be the aim of rational treatment *to strengthen the cells, so that they may be competent* for this duty, and with this object all available means, dietetic, physical, and pharmacological, must be applied.—Other papers related to winter health resorts on the Baltic, to terrain cures (i.e., walking uphill), to cyclo-therapy, and to the treatment of syphilis in mineral water health resorts.

March 20th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Tragedy in the Siena School: Suicide of Professor Cantieri.

THE Nestor of the Sienese medical faculty, Dr. Alessandro Cantieri, Professor of Clinical Medicine in the local university, one of the most esteemed consultants and teachers in the Italian kingdom, committed suicide with a rifle at 11 A.M. on March 14th. He was found dead sitting in his armchair in his private room. He had one foot bare, having doubtless tried to draw the trigger by its means, but not having succeeded with this he availed himself of the walking-stick with curved handle which lay beside him. The explosion must have taken effect instantaneously, as the cranium was horribly shattered, while, strange to say, no detonation was heard even by his servant who entered the room a few minutes afterwards to announce a visitor. Two letters lay within reach—one open, one sealed—both of them addressed to his *daughter who kept house for him. In the open letter* he declared himself weary of life through having incessantly to pay debts contracted by relatives, while he could no longer at his advanced age (78 years) earn the income by which he could have met these demands with ease. In a postscript he added: "Non sono pazzo. Conosco e so pienamente quello che sto per fare" (I am not mad. I have full understanding and knowledge of what I am about to do). For the rest of the day and for all the day following the University was closed in token of sorrow and respect for the deceased. And so disappears from the Italian professional world a familiar and ever-welcome figure, particularly at the periodical congresses, national and provincial. A son of Siena, from his boyhood upwards he was educated at her schools, preparatory and final. Medicine was the calling of his early choice and after a thorough course in the Sienese class-rooms and cliniques he proceeded to Florence and put the finishing touch to his qualifications at the Istituto di Studi Superiori. He graduated in 1844 and thought it best to go at once into general practice as conducing to the consultant's most profitable training and laboured for some years as "medico condotto" (salaried medical officer) at Castelnuovo Berardenga and at *San Gemignano. He never regretted this experience. On the contrary,* he congratulated himself on the practical resource and self-reliance which it gave him when he passed from it to the medical clinique of Professor Burresi in the Sienese University to whom he acted as assistant. His rise was now rapid. For some years he held the chair of *special medical pathology and from this he* was *promoted* to that of general clinical medicine of which he continued to his death "professore ordinario." He was a steady, indefatigable worker, discharging the duties of his class-room and clinique with "conscientious alacrity," while in private practice he acquired a numerous *clientèle* by his judgment and skill. As already stated, he was a frequent attendant at the professional congresses, seldom intervening without making them memorable by some original or suggestive memoir or by some acute and impartial while always perfectly courteous criticism. In 1894 he celebrated the jubilee of his graduation in medicine and the occasion evoked an extraordinary demonstration of loyalty *and affection from grateful pupils at home* and abroad. To the last he kept in the closest touch with the University and though by weight of years compelled to drop the bulk of his practice he never failed to appear with the old punctuality in the class-room or the Istituto Anatomico. In fact, on March 13th, at 11 A.M., just 24 hours before his death, he assisted in the Istituto at the necropsy of a woman who had died in his clinique. Of such a man, lost to life, to science, and to the profession in a manner so tragic, the funeral obsequies could not fail to be impressive. Not only the University, as stated, but all the scholastic institutions of Siena were closed for the day, and the Faculty of Medicine undertook at its own expense, aided by the Minister of Public Instruction *(Baccelli), who contributed 400 fr., to make the "last scene* of all" worthy of the deceased. The hearse was followed by the entire University staff, professors, private lecturers, and assistants; by all the practitioners of the city and many of the province; and by the students bearing a banner draped in black and two crowns, one in the name of the undergraduates of *all faculties, the other in the name of* those of the fifth and sixth medical years—the bulk of them members of Professor Cantieri's class and clinique. The *personnel* of the various hospitals and charitable institutions came next; then a long train of carriages, the whole route being lined with the public, all of them lifting hats respectfully as the procession passed on. A pause was made under the "loggiato" or porticoed gallery of the Convitto Nazionale Tolomeo and funeral orations were pronounced by the Rector of the University, Professor Barduzzi, by Professor Falaschi as spokesman of the medical faculty, and by various other orators representing the many interests—professional, municipal, and charitable—with which the deceased was more or less intimately associated. Thereafter the procession resumed its march till it reached the Cimitero Comunale in which Professor Cantieri had expressed a wish to be interred.

March 18th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Federal Quarantine.

AT the Federal Council sitting in Melbourne in January a Bill was introduced dealing with federal quarantine, to come into force "when and so soon as the Governor of New South Wales notifies to the *Governors of Victoria, Queensland,* and Western Australia, that the *Government of New South* Wales formally agrees to contribute under the provisions of the Act a proportionate part of the expenses connected with its execution." The prime object of the measure is to secure uniformity in quarantine administration in all the colonies and to apportion the cost of maintenance on the basis of population. The difficulty is that New South Wales has not joined in the scheme and until it does Victoria will have to bear the chief portion of the expense. In the Council the Bill passed its first and second reading *pro forma*, on the understanding that its consideration in committee should stand over. The Bill proposes to appoint "federal health officers" with headquarters at Thursday Island, Albany, Adelaide, and Palmerston. The salary and tenure of the appointments are to be fixed by the Governor in Council of the colony concerned and the holders of the appointments will be allowed private practice. The officers are to inspect every vessel arriving in port from "beyond sea"—i.e., outside Australian waters—and a list of questions to be put to masters and ship surgeons is specified.

Presidential Address.

Dr. R. B. Duncan, the retiring President of the Medical Society of Victoria, took as the subject of the customary valedictory address, "Wound Treatment, Past and Present." He reviewed the changes in the treatment of wounds during the last 30 years and pleaded for greater uniformity in the application of the principles of antisepsis and asepsis. He deprecated the growing custom of using dressings, sutures, &c., just as they leave the hands of the wholesale manufacturer. While asepsis was the ideal, there were so many difficulties in its practical attainment under ordinary conditions that the mixed method was the safest. He strongly urged the necessity of frequent bacteriological examinations of the dressings, sutures, ligatures, and scrapings from the hands of surgeons and nurses and of the discharge from the wound. The early detection of infection and the prompt use in such cases of antitoxins, according to the nature of the infection, would lead to a diminished mortality from tetanus and septicæmia. Dr. Duncan further insisted upon the necessity of manufacturing antitoxins and protective serums in Australia, where the scanty and precarious supply and almost prohibitive price of these agents seriously interfered with their proper use. The address concluded with a warm panegyric upon Lord Lister, "the greatest benefactor of the human race so far as the saving of human life is concerned."

Death of Sir Alfred Roberts.

Sir Alfred Roberts, Kt., M.R.C.S. Eng., L.S.A. Lond., died on Dec. 15th, 1898, at the ripe age of 75 years. His life was one of constant and successful effort to realise a high ideal as a cultured gentleman and a high-minded practitioner. Hi name is identified with the Prince Alfred Hospital, Sydne which will ever be a monument to his zeal and assiduity. his action when a member of the Board of Health wa also due the construction of the Little Bay Hospital for Infectious Diseases. He was born in London and he completed his medical course at Guy's Hospital. He arrived in Sydney in 1854 and rapidly acquired an extensive practice. He was soon appointed one of the surgeons to the Sydney Infirmary, a position he held for 18 years. During that period he organised the nursing arrangements and introduced the training of nurses, a plan soon followed in the other colonies. He was examiner in medicine at the Sydney University and honorary secretary to the Prince Alfred Hospital.

Appointments.

A rearrangement of posts in the hospitals for the insane in Victoria has been made. Dr. McCreery will henceforth act solely as inspector-general and is relieved of the charge of the Kew Asylum and Mr. Beattie Smith has been transferred from Ararat to Kew as superintendent. Mr. Barker goes from Ballarat to Ararat and Dr. Lethbridge goes to Ballarat. Mr. Godfrey becomes senior medical officer at Kew and Dr. Steell at Yarra Bend. Dr. R. H. Todd has been appointed deputy coroner in Sydney in place of Dr. Rennie. The new deputy coroner is a barrister-at-law as well as a doctor of medicine. Dr. Mary Vaughan Cowan has been appointed assistant surgeon to in-patients at the Children's Hospital, Melbourne.

Feb. 1st.

NEW ZEALAND.

(From our own Correspondent.)

Annual Meeting of the New Zealand Branch of the British Medical Association (concluded from p. 734).

A meeting of the Council was held on Jan. 4th, 1899, in the University Buildings, Auckland. Present: Dr. Pollen (representing Wellington), Dr. Gibbs (Nelson), Mr. Fleming (Otago), Dr. Pabst and Mr. Dawson (Auckland), Dr. Mason and Dr. Cleghorn (Canterbury), Dr. Fell (President of the Branch), and Dr. Scott (President-elect), who took the chair. A considerable amount of correspondence and accounts were gone into and dealt with, among which was the notification that the Hawkes Bay Section had disbanded from the Branch. Another matter introduced by Dr. Gibbs (Nelson) was a subject to which I have frequently referred in these columns—viz., the resuscitation of the *New Zealand Medical Journal*. The fact is now being recognised that it was a misfortune that the journal was ever allowed to collapse. In reference to this matter Dr. Gibbs said that a year ago a recommendation was sent from the Nelson Section to the Council in Wellington that the association existing between the New Zealand Branch of the British Medical Association and the *Australasian Medical Gazette* should be dissolved and that the New Zealand Branch should resume the publication of their own journal, and he asked if any reply had been sent to that recommendation. The general secretary informed him that no reply had been sent. Dr. Gibbs then pointed out that the *New Zealand Medical Journal* had cleared expenses and fully paid its way. They had now had two years of the *Australasian Medical Gazette* and the second year showed that the circulation had decreased. The general secretary explained that during the first year it was obligatory on members to take the *Gazette* while it was not so during the second year and consequently the circulation had fallen from 170 in the first year to 105 in the second year. The Nelson Branch notified that they intended to give notice of a motion that the *New Zealand Medical Journal* should be resuscitated under the auspices of the New Zealand Branch of the British Medical Association. Dr. Fell stated that he had spoken to Dr. Barnett about the editorship of the *Australasian Medical Gazette* and that Dr. Barnett had informed him that he intended to place his resignation in the hands of this meeting because he felt that he had not received the support which he might have expected from members of the profession practising in the colony and he thought perhaps that somebody else ought t ndertake the duties pertaining to the office so as to it a success if possible; but nevertheless he would be continue his editorship of the *Gazette* if it should h of the meeting. It was then resolved: "That this nowledges its indebtedness to Dr. Barnett for his f the *Australasian Medical Gazette* and requests inue his editorship pending the consideration of a notice of motion given by the Nelson section to the effect that the *New Zealand Medical Journal* should be resuscitated." This is as it should be; it is high time that we had our own journal again. Medical men practising in this colony can interchange ideas and keep records of their own individual work and experience far better by means of a journal published in this colony than by one published in Australia. The original *New Zealand Medical Journal* was, in my opinion, a decided success when it was edited and published in Dunedin. Surely there are men capable and energetic enough still among us to undertake the task of editor.

Dr. Saunders (Wanganui) attended before the Council and explained the position of the Hagey and similar institutions in New Zealand. In the course of his remarks he said that it appeared to him to be necessary for some medical man to come before the Council with the object of endeavouring to prevent members of their profession from "covering" in any shape or form a body of unqualified persons. As soon as these people—he referred more especially to the Hagey Institute—were exposed in one part of the colony they obtained a fresh footing in some other town and by means of advertisements for the bichloride of gold treatment for narcotism and alcoholism they succeeded in establishing a syndicate and did a great deal of harm. Lately, during November, there were two cases of sudden death in his district, both of the deceased having been recently subjected to this bichloride of gold treatment for alcoholism. In one case—a case of suicide—he was called by the police to see the deceased and in the course of the investigation before the resident magistrate the fact was elicited that the people who ran this bichloride of gold cure for drunkenness made the astounding statement in court that *they in every case had a medical certificate sent by a duly qualified medical man as to the health of the individual before he was subjected to the treatment.* He said that astonished him very much and he told the magistrate in court that he knew that that proceeding was altogether unorthodox and contrary to the ordinances of the profession and if he knew of any medical man who covered them in that way he would report the matter to the proper authorities. He did not desire in any way to individualise any person or persons but he merely came before the Council with the object of seeing what could be done to stop these proceedings on the part of medical men in the future. It would not be necessary for him to go into the whole story of the bichloride of gold cure for drunkenness, how it originated in America about 25 years ago, and how an attempt was made to thrust it on the English market. He thought that great credit was due to the action of the Society for the Study of Inebriety and to the Temperance Society of London for their action in regard to this matter. The Lancet in 1892 published a vast amount of most instructive information concerning the

Resolved: That the subject be referred to the general meeting with the recommendation that a notice be sent to all the medical men in the colony advising them that the Council intend referring this subject to the General Medical Council in London should any case come before their notice of a member of the profession attaching himself to such an institution.

Dr. Mason (Otaki), our Parliamentary representative, announced that the Government was now prepared to import serum in bulk. It would go to Wellington and on application any medical man could have a supply of it. Further, if any medical man sent pathological specimens for examination they would be reported on free of charge. It is intended, too, that tubes of culture media for ordinary diseases are to be forwarded to all medical men on application—they would be placed in the hands of the local officers in the various districts of the colony. It was suggested, too, that the Government should appoint an officer in the large centres to whom the medical men would be able to return their tubes for report. The media developed at blood heat so that there was no difficulty in cultivation. It was resolved that a hearty vote of thanks be tendered to the Government for its action in reference to this subject.—Dr. Fell in supporting this motion drew attention to the fact that it was solely due to Dr. Mason's energy and tact that they were enabled to thank the Government for such advantages.

On Jan. 5th Dr. Mason read a very interesting paper on Malignant Œdema; Amputation at the Thigh; Recovery. The paper was illustrated by the author's cultures of the bacillus which were well portrayed. Dr. Truby King followed with a paper on the Scientific Feeding of Calves, and in a very interesting lecture he demonstrated how the weight of the calves depended on the manner in which they were fed. This is a subject of the highest importance seeing that now public attention is being directed to the desirableness of preventing the spread of bovine tuberculosis.

On Jan. 6th Dr. Macgill showed with great success the practical Widal test for the diagnosis of enteric fever. It was a very interesting demonstration. Dr. Pabst followed with some valuable remarks on the same disease from a clinical aspect and Mr. Baldwin gave a series of statistical tables showing the actual number of cases of enteric fever treated in the Auckland Hospital for a long series of years past. It was evident to all present that Mr. Baldwin (the resident surgeon to the Auckland Hospital) had taken immense pains with this subject and illustrated as his tables were by excellent diagrams the result of his work should be found in the future a very valuable record for the hospital archives. It is evident that the Auckland medical men have had their attention of late directed very closely to this disease for Dr. Macgill followed with some excellent remarks on the same subject from a bacteriological point of view. That the Auckland Hospital itself is far in advance of what it used to be is a certain fact. It is clean, well managed, and well provided for in all details. Its general surroundings are in marked contrast to what existed only a few years ago when, in my opinion, it was anything but a model institution.

On Jan. 7th it had been arranged to wind up the annual conference by means of a harbour picnic. An Auckland Harbour picnic is a thing to be remembered—the beautiful scenery, the splendid fishing, and the kindly hospitality of the Aucklanders being well known to me personally; but this year it was not to be, for a real change was in store for the visiting members of the profession. The Government granted in a very generous manner a special trip to the world-famed sanatoria of Rotorua to all members of the profession attending the conference. The trip was to be free of cost and two special carriages were supplied. About 40 members of the profession took advantage of this kind offer and one and all enjoyed themselves greatly. There can be no doubt whatever that the present Government of New Zealand, although accused on a great many counts, cannot be indicted by the medical profession for not answering to any "knock at their door" for assistance when required, the Premier (the Hon. R. J. Seddon) being the first on all occasions of medical conferences to do whatever is possible to further our discussions and to render our stay, wherever the rendezvous may be, pleasant and satisfactory to all concerned.

Feb. 3rd.

Obituary.

DEPUTY INSPECTOR-GENERAL JOSEPH JEE, V.C., C.B.,

HONORARY SURGEON TO THE QUEEN.

DEPUTY INSPECTOR-GENERAL JOSEPH JEE died at his residence, Queniborough Hall, near Leicester, on March 17th. He received his education at the Universities of London and of Edinburgh and also at the École de Médecine at Paris. In 1842 he joined the 1st Dragoons as assistant-surgeon and became surgeon in 1854. Eight years later he was appointed surgeon-major and subsequently he retired with the rank of honorary deputy inspector-general in 1868. During these years he saw much service. For his conduct in the Persian War of 1857, including the night attack and battle of Kooshab and the bombardment of Mohumrah, he received the medal with clasp. He served with Havelock's column in the several actions leading to, and ending in, the relief of the Residency of Lucknow and its subsequent defence, ending in the final capture of Lucknow. He was present with Brigadier Campbell's column in the affairs of March 20th and 21st, and also in the Rohilcund campaign in 1858 and the capture of Bareilly, receiving the medal with two clasps, the Companionship of the Bath, and a year's service for Lucknow. He received the Victoria Cross "for most conspicuous gallantry and important services on the entry of the late Major-General Havelock's relieving force into Lucknow on Sept. 25th, 1857, in having during action (when the 78th Highlanders, then in possession of the Char Bagh, captured two nine pounders at the point of the bayonet), by great exertion and devoted exposure, attended to the large number of men wounded in the charge, whom he succeeded in getting removed on cots and on the backs of their comrades until he had collected the dooly bearers who had fled. Subsequently on the same day in endeavouring to reach the Residency with the wounded men Surgeon Jee became besieged by an overwhelming force in the Mote-Mehal, where he remained during the whole night and following morning, voluntarily and repeatedly exposing himself to a heavy fire in proceeding to dress the wounded men who fell while serving a 24-pounder in a most exposed situation. He eventually succeeded in taking many of the wounded through a cross fire of ordnance and musketry safely into the Residency by the river bank, although repeatedly warned not to make the perilous attempt."

HENRY JOHN BUTLER, L.R.C.P. LOND., M.R.C.S. ENG.

THE death took place on March 10th of Mr. Henry J. Butler of Bradford, Yorks, at the early age of 35 years. The cause of death was blood-poisoning following the prick of a safety-pin sustained whilst dressing a case of empyema. From the point of local infection the disease rapidly became general and after 10 days of great suffering death ended the illness. Mr. Butler was a native of Bradford and was educated at the St. James's Church School and the Bradford

Grammar School. After a successful student's career at the Leeds School of Medicine he filled the post of house physician at the General Infirmary, Leeds. 12 years ago he commenced practice in Bowling, Bradford, and quickly built up for himself a reputation as a conscientious and skilful member of his profession. He was very popular with his patients and was deeply respected by his fellow-practitioners. He was a member of the committee of the Bradford and District Medico-Ethical Society and he took great interest in its affairs. It was only on the evening before his fatal misadventure that he read a paper before the society upon the question of Hospital Abuse. A special meeting of the same society which was called for March 10th met and adjourned as a sign of respect to his memory after passing a vote of sympathy with Mrs. Butler in her sad loss. The funeral was attended by 30 or 40 of the medical men of the city as well as by several of the clergy and ministers of the district. The peculiarly sad circumstances surrounding Mr. Butler's death caused a deep impression upon the minds of all who knew his genial character and large numbers of the general public paid their last respects to his memory upon the day of his funeral. He has left a widow and three children.

HENRY JOHN KNIGHT, M.R.C.S. ENG., L.S.A., J.P.

VERY tragic circumstances attended the death of Mr. H. J. Knight of Rotherham who was found unconscious and in a dying state in his partner's consulting room on the afternoon of March 12th. At the inquest evidence was given to the effect that he had for some years been liable to periods of mental depression which had become worse since the death of the last of his brothers about a year and a half ago. One of these attacks had been continuing for the last two months and he had also complained of distressing cardialgia. The medical evidence was that a half-ounce bottle of prussic acid kept in the adjoining dispensary was found to have been emptied and that the use of the stomach-pump together with the administration of stimulant remedies failed to avert a fatal issue. A despairing note in the deceased's handwriting was also found in his pocket and the jury immediately returned a verdict of "Suicide during a state of temporary insanity." Mr. Knight received his professional education at the Sheffield Medical School and at St. Bartholomew's Hospital. He became qualified in 1858 as M.R.C.S. Eng and L.S.A. and had been in practice in Rotherham since 1864. Being very popular and highly respected he was chosen to fill several prominent public positions, such as churchwarden, manager of the national schools, president of the Rotherham Orchestral Society, &c.; he was also a Justice of the Peace for the borough. The utmost sympathy was everywhere expressed for the family and the funeral was very largely attended, among those present being the mayor and several members of the corporation, together with representatives of the churchwardens, of the Sheffield Medico-Chirurgical Society, and of the Rotherham School Board.

WILLIAM JOHN ALLKIN, M.R.C.S. & L.M. ENG., L.R.C.P. & L.M. EDIN.

THE death of Mr. Allkin of Denton on March 9th at the age of 60 years has called forth universal sympathy and regret in the district. For many years he had a large general practice extending over a wide area. He was much beloved for his genuine kindness and the poor of the district will miss his unobtrusive but ready charity. For more than 30 years he was medical officer of health of Denton and Haughton, and of Audenshaw for more than 20 years. For 22 years he was medical officer of the parishes of Denton and Audenshaw and factory surgeon for 17 years. His father was the first vicar of St. George's, Hyde. He was a Churchman and in politics a Conservative, but he avoided "the wrangles of the public platform," as publicity had no charms for him. His funeral was very largely attended by friends and the representatives of public bodies, while in the procession were mournful crowds of his fellow townspeople.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. George H. Rohé, Professor of Therapeutics and Materia Medica in the College of Physicians and Surgeons, Baltimore.—Dr. M. J. Saraiva, Professor of
Hygiene in the Univ ity of Branch should
fessor of *Midwifery* i of the St and he asked if
Dr. Tarnovski, Dire s, Professor mendation. The
pital.—Dr. Desro Montreal.—Dr. eply had been sent.
Laval University ordeaux Faculty of Me *ew Zealand Medical*
Anatomy in the well-known Cologne oph aid its way. They
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Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—e re- March the following candidates passed in the subranch indicated:—

Surgery.—C. J. Coleman, Cambridge and Birmingham; A. G. C. Davies (Section I.), Guy's Hospital; E. L. Gowlland (Sections I. and II.), St. Mary's Hospital; H. W. Hues, Birmingham; and W. A. H. B. Smith, King's College Hospital.

Medicine.—H. S. A. Davies (Section I.), Michigan; H. H. J. Edwards (Section I.), St. Thomas's Hospital; F. Golding Bird, Guy's Hospital; V. S. Partridge (Section I.) and R. C. Robertson, Charing-cross Hospital; and W. P. Williamson, McGill.

Forensic Medicine.—H. S. A. Davies, Michigan; H. H. J. Edwards, St. Thomas's Hospital; P. J. Fitzgerald, Dublin; V. S. Partridge and R. C. Robertson, Charing Cross Hospital; H. Whittaker, Cambridge; and W. P. Williamson, McGill.

Midwifery.—W. P. Allen, Birmingham; J. T. Crowe, St. Mary's Hospital; H. H. J. Edwards, St. Thomas's Hospital; W. M. Hocken, Liverpool; H. L. Laidman, Manchester; C. C. Morgan, St. Bartholomew's Hospital; F. C. Torbitt, Manchester; W. P. Williamson, McGill; and T. Young, St. Bartholomew's Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: Messrs. W. A. H. B. Smith and H. W. Hues.

FOREIGN UNIVERSITY INTELLIGENCE.—*Strasburg:* Dr. H. Eggeling has been recognised as *privat-docent* of Anatomy.—*Utrecht:* Dr. Heinrich Snellen is about to succeed his father, to whom he has hitherto been assistant, as Professor of Ophthalmology.—*Vienna:* Dr. Winternitz has been appointed Extraordinary Professor of Internal Medicine.

THE LATE MR. R. GRIFFITH.—Mr. Richard Griffith, L.R.C.P., L.R.C.S. Edin., of Glyn Neath, Glamorganshire, died on March 17th, at the age of 38 years. On Feb. 14th, as reported in THE LANCET, Mr. Griffith was thrown from his horse and sustained a fracture of the base of his skull. The deceased who was surgeon to several collieries in the district leaves a widow and two children.

PRESENTATIONS TO MEDICAL MEN.—On March 4th, at the Miners' Hall, Haswell, on the distribution of certificates to the successful students of the ambulance class held amongst the Tuthill quarrymen and others, Mr. S. A. Fothergill, L.R.C.P. Edin., M.R.C.S. Eng., of Haswell, the teacher of the class, was the recipient from the members of an easy-chair as an acknowledgment for his instructions.—On March 7th Mr. John T. Dickie, L.R.C.P., L.R.C.S. Edin., who has been in practice at Loanhead for the past 16 years, was entertained to a banquet in the Balmoral Hotel, Edinburgh, on the occasion of his leaving the district. A company of about 60 ladies and gentlemen assembled. Provost Gunn (Loanhead) presided and on behalf of Mr. Dickie's friends in the Loanhead district presented him with an illuminated address, a writing-desk, and a chair, together with pieces of silver for Mrs. Dickie.—The members of the Chippenham branch of the St. John Ambulance Society have presented Mr. W. T. Briscoe, M.D., M.Ch. Dub., with a hunting flask in appreciation of his services as honorary lecturer to the class.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Food Standards.

IN anticipation of the Committee stage of the Sale of Food and Drugs Bill Sir CHARLES CAMERON has given notice that he will move to insert in the Bill the following new clause, viz.:—

"The Board of Trade shall appoint a Standing Committee of Reference on Food Standards to be composed as follows: each of the following bodies, that is to say, the Local Government Board, the Board of Agriculture, the Society of Public Analysts, the General

Medical Council, the Institute of Chemistry, and the Pharmaceutical Society shall name a representative and the Board of Trade shall, if it think fit, appoint such nominee to be a member of the Standard Committee of Reference on Food Standards. But if the Board of Trade object to any person so nominated it may require any of the bodies aforenamed to nominate three persons, of whom the Board of Trade shall select one as the representative of the body on the said Standing Committee, and the principal officer of the Government Laboratory at Somerset House shall, *ex-officio*, be a member of the said committee. And the said Standing Committee are empowered to make such order as they think proper from time to time respecting standards of the quality and purity of food, and the orders, if and when they have been confirmed by one of Her Majesty's Principal Secretaries of State, shall have the force of law.

The Conscientious Objector

The Bill to repeal the Conscientious Objector Section in the Vaccination Act of last year came on for second reading on Wednesday, March 22nd, at a time when only non-contentious business could be taken, and as it was opposed the order had to be postponed. There is little chance of the Bill ever being discussed in the course of the present session.

HOUSE OF COMMONS.

Thursday, March 16th.

Medical Officers in the Navy

Captain Norton asked the First Lord of the Admiralty whether it had been brought to his notice that certain medical officers who entered the Royal Navy in 1878 and went through the 128 days' course of naval and military hygiene at Netley (at that time compulsory) on half pay had not been allowed to count that time for promotion, while others who joined the service some months later and were given direct commissions afloat, in consequence of what was then known as the Russian war scare, the hygiene course in their case being dispensed with for the time, had been promoted over the heads of the former through the latter having more full pay time, and whether, in order to remedy this, he would consider the advisability of altering the rules of the service so that the period of training at Netley Hospital might reckon as naval service for all purposes and so that the prospects of these senior officers for promotion from the rank of fleet surgeon to that of deputy inspector-general might not be prejudiced.—Mr. Macartney replied to the question saying: Certain medical officers were entered for immediate service in 1878 and did not go through the usual course at Netley. One of these officers after serving afloat applied to be allowed to go through the course and his time was allowed to count as a special case, as his application was a voluntary act and made under the impression that the time would count. It is not considered desirable to alter the rules, but directions have been given that when the time approaches for the promotion of officers entered in 1878 to the rank of deputy inspector-general their positions on the list shall be specially considered.

Cerebral Fever in the Soudan.

Mr Pirie asked the Under Secretary of State for Foreign Affairs whether the Government had any information as to the state of health of the native troops quartered at the present moment in the Soudan; whether it was the case that they were suffering to a great extent from cerebral fever from which, even if the attack did not end fatally, the patient never permanently recovered; what had been the mortality amongst those troops since our taking possession of the Soudan, and what was the percentage of deaths among those attacked by the cerebral fever.—Mr Brodrick replied: We have received no detailed report as to the state of health of the native troops at present in the Soudan, but such reports would naturally be addressed to the Egyptian and not to Her Majesty's Government. It is known that the troops operating on the Blue Nile have suffered severely from the climate there and the Egyptian army generally have been subjected to considerable strain during the last 12 months. Statistics as to mortality and sickness will be called for.

Friday, March 17th.

The Petroleum Question

Mr. Jesse Collings said, in answer to a question, that the Bill of the Home Office based on the recommendation of the Select Committee on Petroleum and Accidents arising from the Use of Petroleum Lamps will be introduced as soon as possible after Easter.

Medical Service in the Army.

When in Committee of Supply on the Army Estimates the House discussed at great length the case of a private of the 17th Lancers who died in Ballincollig from a clot of blood on the heart while undergoing punishment for breach of discipline. In the course of the debate it transpired that the medical man called in by the military authorities was not registered and this fact was severely commented upon by several members.—Dr Clark insisted that a serious mistake had been made, while Captain Norton declared that during the last 10 or 12 years they had never had in the army anything but the sweepings of the medical schools.—Mr. Carson, the representative of Dublin University, advocated a return to the system of associating the medical officer with the regiment.—Sir Henry Campbell-Bannerman who was Secretary of State for War in the last Administration addressed himself especially to this point. He reminded the House that there was a great deal to be said on the other side of the question. The evils of the old system, he said, were glaring and notorious. When the change took place, 26 years ago, he was a very subordinate official in the War Office and he knew that all the best opinion and experience in the medical service were in favour of the adoption of the general hospital organisation as superseding the regimental organisation. Everyone would see the advantage, and he need not dwell upon it, of having a medical officer in the regiment living among the men and taking a fatherly or brotherly interest in the men, but on the other hand, that medical officer gained little experience in professional life, having little experience beyond one or two classes of diseases and he would lose some of that tone and fibre which should be the possession of an experienced medical authority. That was one of the arguments which might be used, but it was not a question the House could now enter upon, and he only wished to warn those who were inclined to jump to the conclusion that a return to an antiquated discarded system would prevent accidents like these that the result would be more likely to be in the opposite direction. The dearth of medical officers in the army had been referred to and it was known what that had arisen from to a large extent—of which, he hoped the cause would hereafter be removed—the jealousy or distrust on the part of certain medical schools of the army as a career for a medical officer had been mitigated. It would readily be seen that there were very many cases in which a civilian medical officer must be employed and that it would be a waste of money, of power, and presumably of skill, to employ an army medical officer in every case when there was choice of civilian medical men at call in the immediate neighbourhood.

Monday, March 20th.

Venereal Disease in India

Major Rasch asked the Secretary of State for India whether his attention had been called to the fact that the returns for 1897 show an increase of secondary syphilis of 8·5 in admission rate per 1000, of mortality of 0·17, of constantly sick of 1·18, as compared with the previous year, and that the number invalided home was 662 in 1897 as against 479 in 1896, being an increase of 183, or 38 per cent., of venereal disease; whether the information in the hands of the War Office shows that this increased virulence is due to the fact that patients do not undergo early treatment but are removed from cantonments to spread disease elsewhere, and if it was the practice to treat men suffering from constitutional syphilis in barracks instead of in hospital, which causes an apparent reduction in the number of admissions and renders the statistics misleading.—Lord George Hamilton: The figures relating to venereal disease are correctly given by my honourable and gallant friend, but as regards admissions they are applicable to troops in cantonments only. The information available does not admit of any definite conclusion being drawn as to the cause of the increased virulence of secondary syphilis in 1897 as compared with 1896. Treatment of soldiers in barracks in certain stages of the disease has doubtless caused some reduction in the admission rate, but as it has been practised for some years it does not, I think, affect the comparison of one year with another.

Borax as a Food Preservative.

Mr. Kilbride asked the President of the Board of Agriculture whether he was aware that foreign bacon imported into this country had been found to contain 0·33 per cent. of boric acid and that the French authorities had refused to admit the importation of bacon thus preserved on the ground that it was injurious to health; whether he was aware that the law in Brazil prohibits the use of borax as a food preservative; and whether, in view of the action taken by other Governments, inquiry would be made into the use of borax in the interests of the public health.—Mr Chaplin replied to the question, saying: I was not aware of the facts alleged in the first and second paragraphs of the question and I have not yet ascertained how far they are accurate. The Local Government Board has no direct information on the matter. I am considering the question of such an inquiry as that suggested by the honourable member and if it should appear to be necessary or desirable in the interests of the public health it will be my duty to direct it to be held.

Tuesday, March 21st.

The Vaccination Question

Mr Logan asked the President of the Local Government Board if he proposed during the present session to so amend Section 2 of the Vaccination Act, 1898, as to prevent cases of an undue refusal by the magistrates to grant the certificates which were authorised by the Act.—Mr Chaplin said that it had already been announced on behalf of the Government that they did not propose to introduce any legislation on this subject during the present session.

The London Water Question

At this sitting of the House several private Bills dealing with the water-supply of London were discussed. Mr. James Stuart took exception to the Bill of the East London Company on the ground that in his opinion the River Lee is not a satisfactory source of supply. He moved the rejection of the measure but at the end of the debate he withdrew his motion and the Bill was read a second time. The chief debate, however, was upon the second reading of the Bill of the London County Council for bringing a supply of water to the metropolis from Wales. Mr James Stuart argued that for its future needs London could not rely upon the Thames and the Lee but must seek elsewhere for a satisfactory supply, and he submitted that the case was so urgent that Parliament should not wait for the report of the Royal Commission.—Mr Whitmore moved as an amendment "that it is inexpedient that the Bill be read a second time before the Royal Commission on the London Water Supply has presented its report," and this amendment was supported by the Government, Mr Chaplin saying that the Bill prejudged all the important questions referred to the Royal Commission. The amendment was carried by 206 to 130 votes.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

Anningson, B., M.D. Cantab., M.R.C.S., has been re-appointed Medical Officer by the Royston Urban District Council.

Arkwright, J. A., M.D. Camb., B.C., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Halesowen Sanitary District of the Stourbridge Union.

Bennett, P., M.B., B.Ch. Irel., has been appointed Medical Officer for the Attercliffe Sanitary District by the Sheffield Board of Guardians.

Burt, W. C., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Workhouse of the Torrington Union.